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Author

Topic: Neumann DST copy??? (Read 39303 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

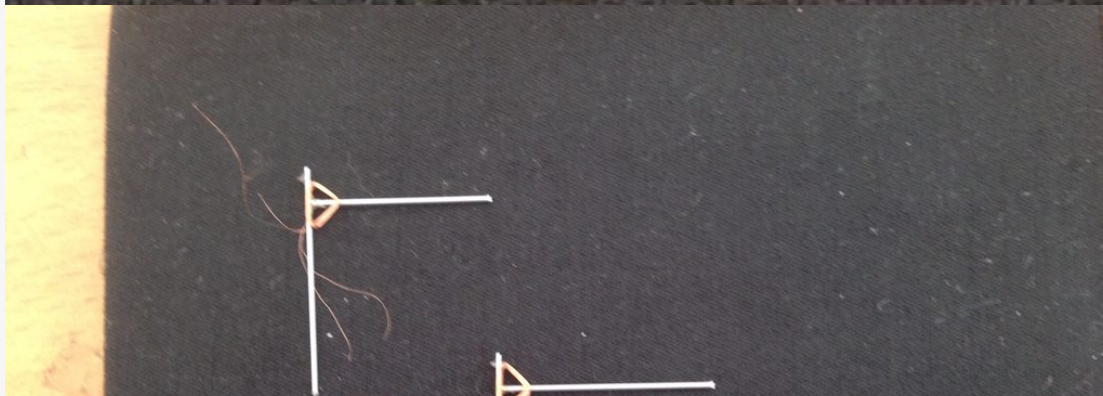
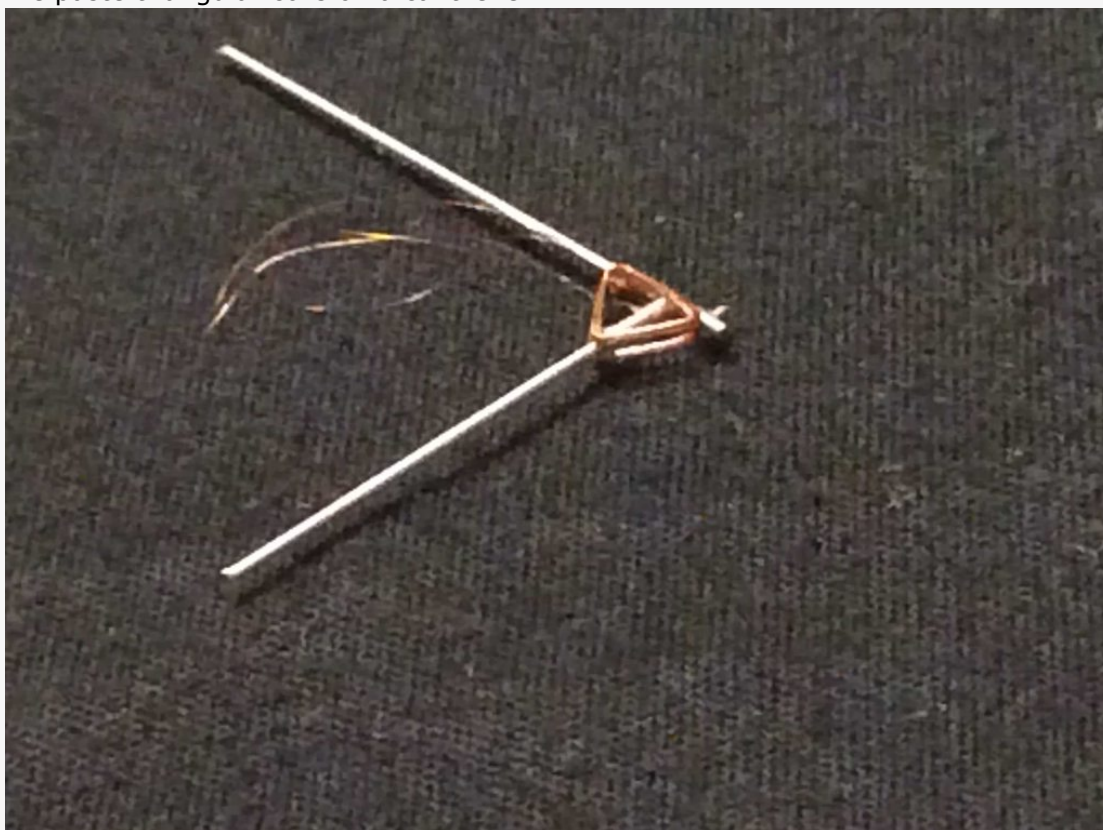
Posts: 195

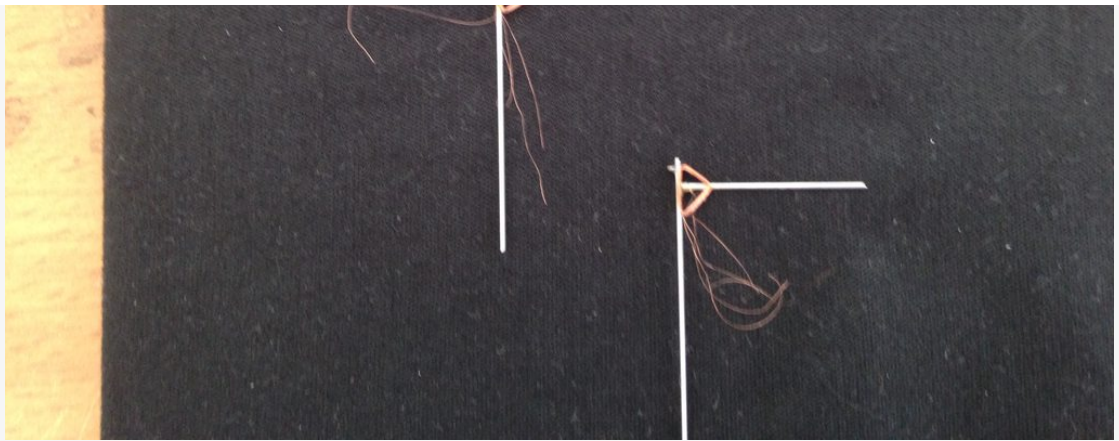


Re: Neumann DST copy???

« **Reply #15** on: July 22, 2017, 01:51:47 PM »

We paste triangular coils on a cantilever





« Last Edit: December 31, 2018, 02:53:17 PM by Vintagepsych »

Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #16 on: July 22, 2017, 02:04:44 PM »

Rubber damper diameter 9mm



Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia



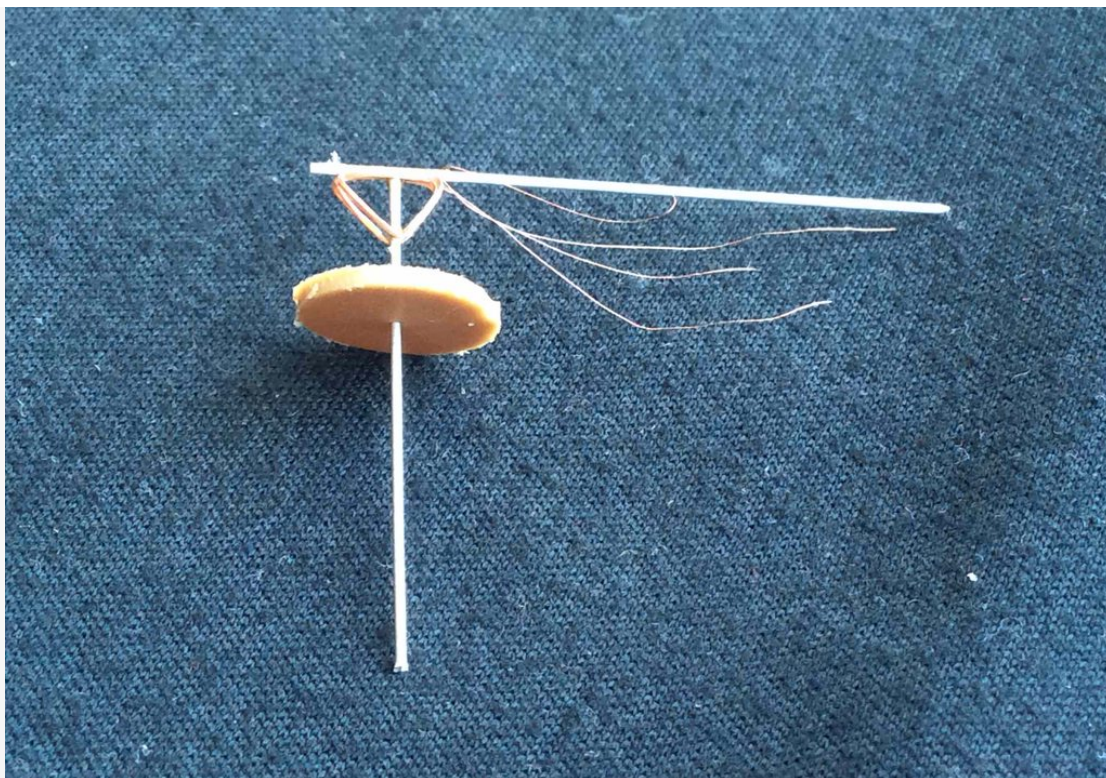
Re: Neumann DST copy???

« Reply #17 on: July 22, 2017, 02:07:01 PM »

Moving system assembled



Posts: 195



« Last Edit: July 25, 2017, 06:11:05 AM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



 Offline

Age: 74

Location: Russia

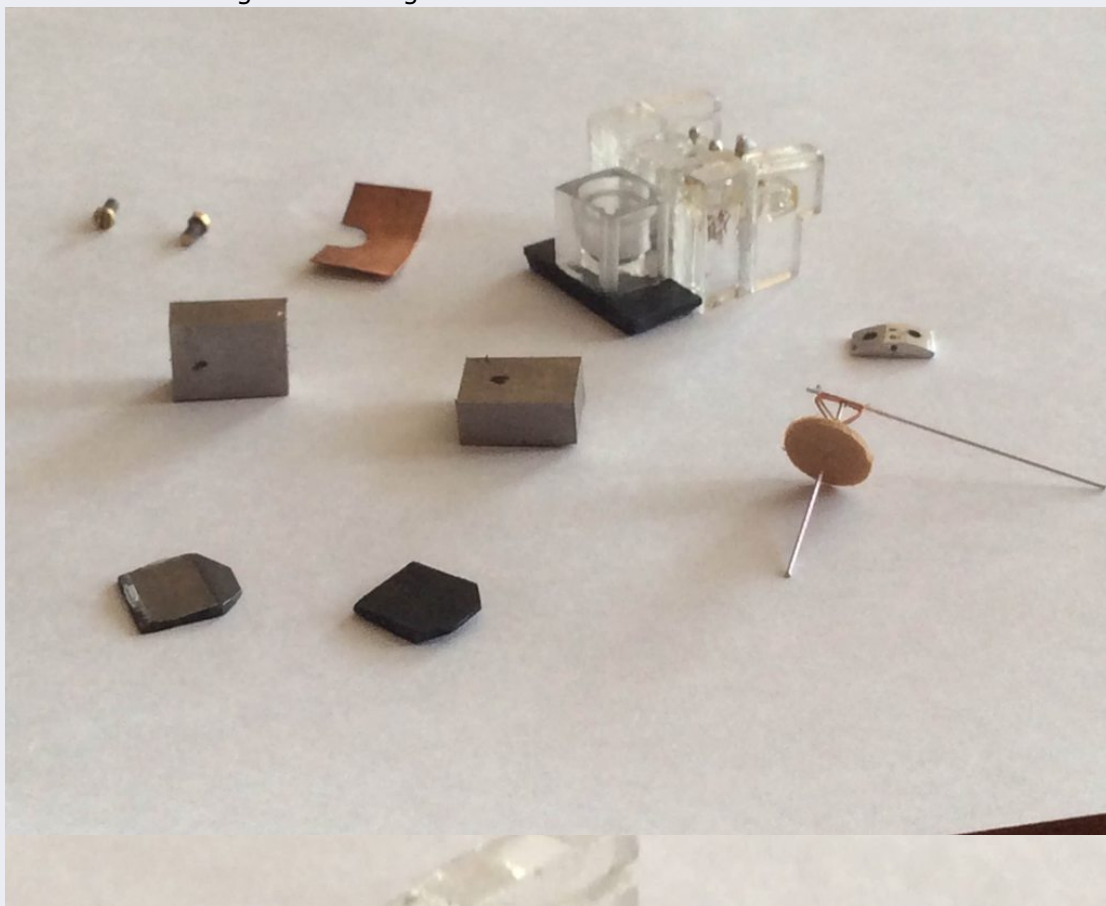
Posts: 195

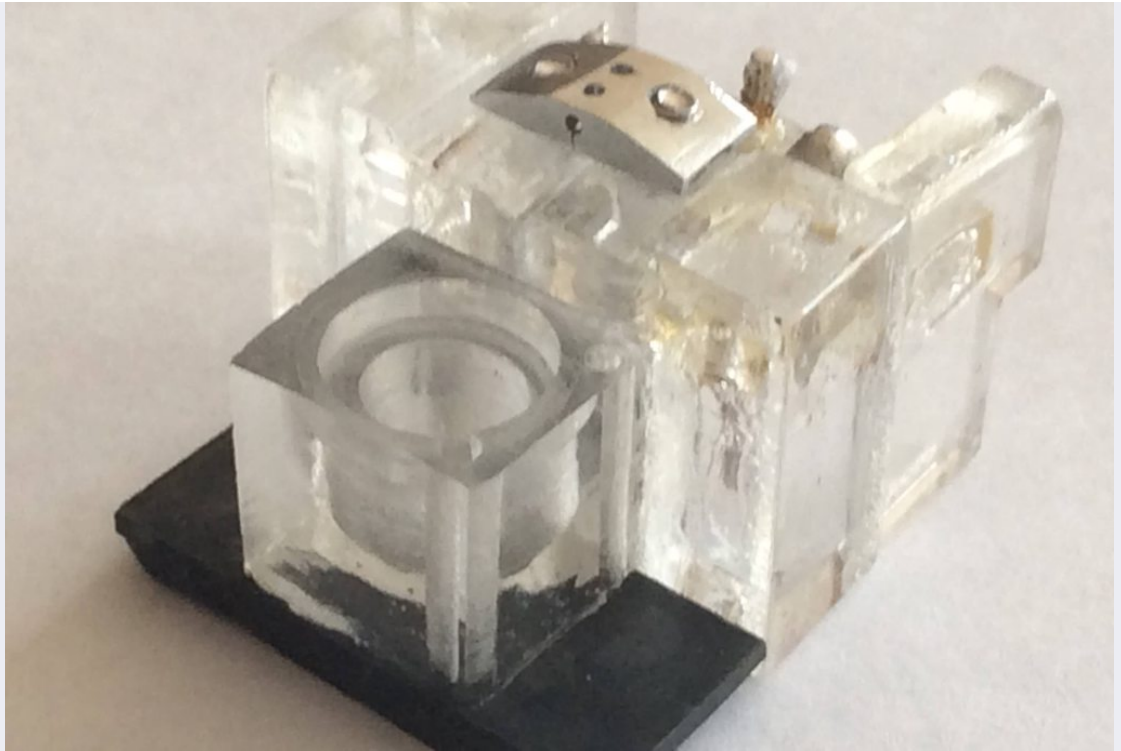


Re: Neumann DST copy???

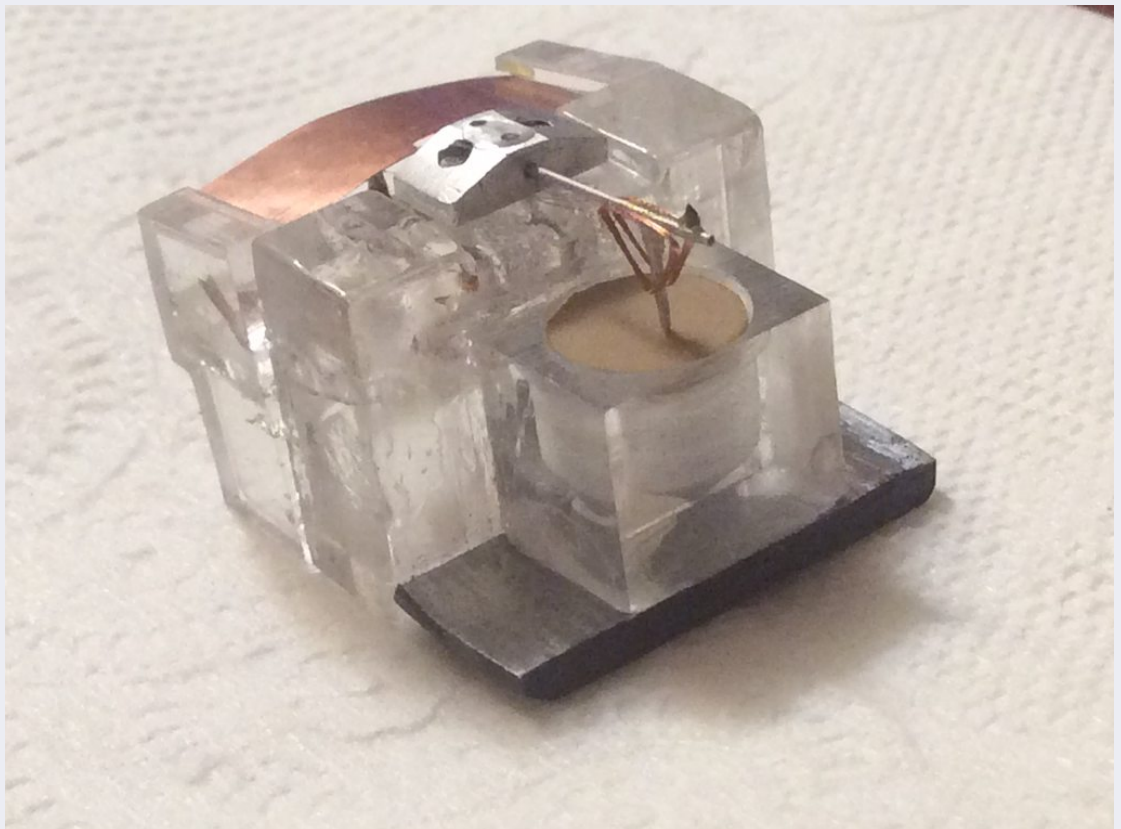
« Reply #18 on: July 22, 2017, 02:15:10 PM »

We are assembling the Cartridge





fixed cantilever holder

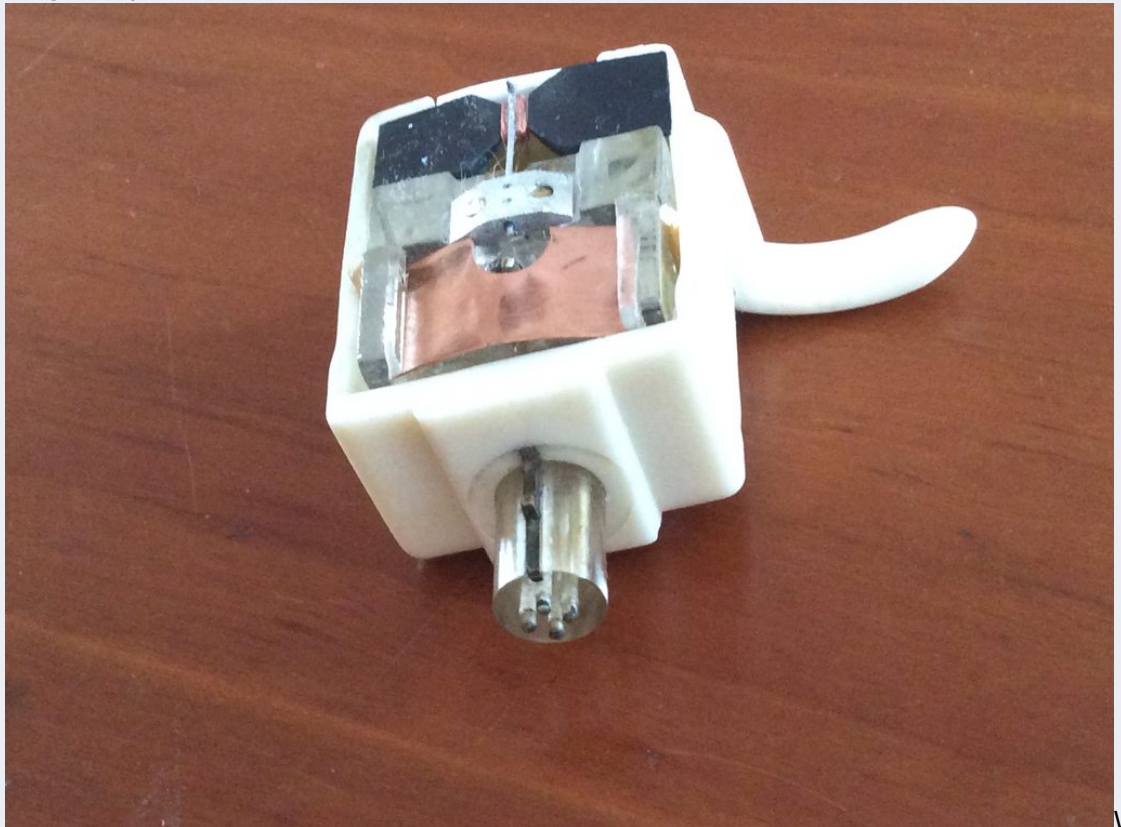


moving system





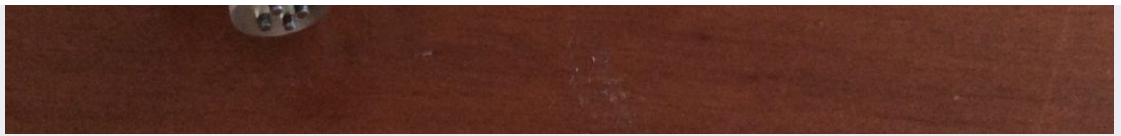
magnet system



We

place a cartridge in shell





original and copy

« Last Edit: December 31, 2018, 02:54:15 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #19 on: July 22, 2017, 02:25:26 PM »

Work is finished with excellent result! Cartridge is integrated into a stereosystem and sounds great. Thank you for your interest. I hope that someone will be useful this information. Werner, thanks for your help. With your help to live it became easier 😊 Important: This description and photos aren't the instruction or the guide for production of cartridges. It is just the story as the cartridge became



« Last Edit: May 20, 2023, 03:08:40 PM by Vintagepsych »

 Logged

Yuriy

zwarte-romantiek

Member



☐ Offline

Age: 57

Location: Utrecht,

The Netherlands

Posts: 1,165




Re: Neumann DST copy???

« Reply #20 on: July 22, 2017, 10:09:48 PM »

Wow amazing story. I never going to build a cartridge myself, I do not have those skills, but I love to see and read this.
Is this the first one on many?

Niels



 Logged



THORENS lover

Niels J. Masselink
The Netherlands

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #21 on: July 22, 2017, 11:11:07 PM »

Thanks for those amazing pics of your build!

Top level of craftsmanship 🙏

best,

Logged

Andrey

jazid

Member



☐ Offline

Location: London UK
Posts: 25



Re:

« Reply #22 on: July 23, 2017, 12:17:43 AM »

Wow, amazing, your patience and ability are way beyond mine, even in fantasy!

Sent from my GT-I9195 using T***talk

Logged

decca4

Member



☐ Offline

Age: 79
Location: Sweden
Posts: 1,470



Re: Neumann DST copy???

« Reply #23 on: July 23, 2017, 09:42:22 AM »

Great, highly interesting! 🙏

It would nice to hear what your listening impressions are when you compare it to other cartridges you have experience with.

Logged

Stefan

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« Reply #24 on: July 23, 2017, 12:19:10 PM »

Great project & very well carried out 🙏

A few questions if I may.

Are the spacers between the magnets Aluminium ?

Do the magnets need to have an electrical contact between them ?

Is the cantilever holding block also Alu ?

Could Neo magnets be used in place of the SPU's ?

How many turns of copper wire did you use for each of the coil triangles ?


What kind of output are you getting ?

Lastly for now what kind of magnifier did you use so you could see what you were



doing 🤖

Once again respect of your skills

 Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #25 on: July 23, 2017, 02:09:05 PM »

Hi James! Thanks for your interest. I have gap made a minimum. Between the coil and a polar tip 0,2 mm. Perhaps in the future I will experiment with gaps. The holder of a cantilever aluminum. I don't apply neodymium. Only Alnico.

« Last Edit: December 31, 2018, 02:55:56 PM by Vintagepsych »

 Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426



Re: Neumann DST copy???

« Reply #26 on: July 23, 2017, 02:33:23 PM »

Dear Yuriy,

This is a fascinating project. Congratulations.

I have also some questions for you in case you do not mind.

What kind of glue have you used to attach the coils from the both sides of cantilever and also for the perpendicular support. Is it some epoxy or softer/rubber based glue.

As I understand you've uses your own cantilever to attach the diamond from a generic/replacement needle. Do you think it is also possible to attach the coils directly on the generic cantilever/stylus and to avoid removing of the diamond tip?

Another general question: Why did Neumann used triangular coils? What is the benefit instead of using conventional circular shape?

Thank you in advance.

Regards.

 Logged

Alexander.

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #27 on: July 23, 2017, 03:34:25 PM »

Hi, Alexander! Thanks for your questions. I paste diamond to an aluminum tube tsianokrilat glue. I paste coils to a cantilever BF-2 glue. Triangular coils are used because, the magnetic system is designed so that the maximum magnetic field focused on the horizontal party of a triangle.

« Last Edit: December 31, 2018, 02:56:59 PM by Vintagepsych »

 Logged

JayMember
Member☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's
'Lenco' James

**Re: Neumann DST copy???**« **Reply #28 on:** July 24, 2017, 04:05:13 PM »

Now that I've seen what you have done, I'm now intrigued by the prospect of being able to make a cartridge, that I'm giving this serious thought.

So some general questions.

Did you use an ordinary speaker magnet & re-shape it with a surface grinder of some sort ?

What would be a good relatively cheap elliptical aftermarket stylus to use ?

What kind of material was the Rubber damper made of ?

Was the Copper wire Enamelled ?

Logged

James.

Decca's, clones & home brewed HiFi

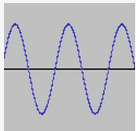
I am defiantly wired differently

Brumm

Member

☐ Offline

Location: Central
Switzerland
Posts: 1,129

**Re: Neumann DST copy???**« **Reply #29 on:** July 24, 2017, 04:57:11 PM »

What I don't understand is how two almost parallel coils can generate a stereo signal. I see 4 connection points, so it must be stereo?

Greetings,
Hansrudolf

Logged

Hansrudolf

"Music is supposed to wash away the dust of everyday life"

Art Blakey

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Author

Topic: Neumann DST copy???

(Read 39304 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« **Reply #30 on:** July 24, 2017, 05:25:33 PM »

Hi Hansrudolf!

"Neumann DST" means Neumann Dynamischer Stereo Tonabnehmer.

Coils are parallel, but magnetic field affects each coil at an angle. Therefore the stereo plays without problems.

« Last Edit: July 29, 2017, 07:52:33 AM by Vintagepsych »

Logged

Yuriy

dauphine

RIP: gone but not forgotten

Member



☐ Offline

Location: Cape Town

South Africa

Posts: 920



Re: Neumann DST copy???

« **Reply #31 on:** July 24, 2017, 08:01:47 PM »

Quote from: Jay on July 24, 2017, 04:05:13 PM

Now that I've seen what you have done, I'm now intrigued by the prospect of being able to make a cartridge, that I'm giving this serious thought.

So some general questions.

Did you use an ordinary speaker magnet & re-shape it with a surface grinder of some sort ?

What would be a good relatively cheap elliptical aftermarket stylus to use ?

What kind of material was the Rubber damper made of ?

Was the Copper wire Enamelled ?

I hope I'm not sticking my head in a hornet's nest and I intend no offence, Jay.


Even though Yuriy has shared his superb skills and craftsmanship and even though he

has made a copy of a near mythical cartridge and shown with excellent images and patient answers, all that he had learned and researched surely did not come cheap. In a way - copy or not - whatever he has so magnificently done is his 'intellectual property' and I think rightly or wrongly, you should consider doing your own research and acquire those skills Yuriy worked so hard for, rather than asking the OP to provide answers to your questions.

Just my tuppence.

Regds

andre

 Logged

Andre

If you don't like my principles, I have many others - Groucho Marx

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #32 on: July 24, 2017, 08:35:30 PM »

Dear Andre,

With all due respect to you I am not sure that Jay is showing a kind of disrespect with his questions. Just the opposite- I am sure we all are fascinated by Yuriy's work which surely didn't come cheap for him and the questions are just coming as a normal follow up of the topic.


I know how much it costs to research and develop something (even reverse engineering is very hard and expensive process), but from the other hand Yuriy was kind enough to show us his work alone, and additionally has revealed the process of manufacturing it from scratch.

Best regards,
Alexander.

p.s. Sorry If I didn't got your post right.

p.s.2 - I think that the outstanding work that Yuriy has performed will inspire many of us to try to make something like this.

« Last Edit: July 24, 2017, 08:43:17 PM by Alexandro »

 Logged

Alexander.

pde2000

Member



☒ Online

Age: 55
Location: upminster
Posts: 2,715



GB



Re: Neumann DST copy???

« Reply #33 on: July 24, 2017, 09:24:02 PM »

Quote from: Jay on July 24, 2017, 04:05:13 PM

Now that I've seen what you have done, I'm now intrigued by the prospect of being able to make a cartridge, that I'm giving this serious thought.

So some general questions.

Did you use an ordinary speaker magnet & re-shape it with a surface grinder of some sort ?

What would be a good relatively cheap elliptical aftermarket stylus to use ?

What kind of material was the Rubber damper made of ?

Was the Copper wire Enamelled ?

I can answer some of your questions; The magnets are alnico V and could be adapted from other sources than spu pickup (like a ribbon microphone for example). A ceramic pickup replacement stylus (eg. acos) often comes with a diamond installed at 90° to the pipe, but the pipe wont be long enough maybe. (guesswork; The rubber looks to be natural latex or isopon.) The wire is enamelled. You can get this gauge of wire from unwinding a mm pickup's bobbins.

The triangular shape coil uses the least amount of wire for maximum output from the focused magnetic field, and is most mechanically stable.

 Logged

Paul in the ning nang nong, where the cows go bong, and the teapots jibber jabber joo.

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« Reply #34 on: July 24, 2017, 10:54:10 PM »

In answer to some comments. I myself have freely given "Intellectual property" freely to any one who wants to use my original idea for mounting the Lenco idler wheel !

I do not intend to make a clone or copy of the DST as Yuriy has done, as I have never seen a DST & Yuriy has & has been able to dismantle one & reverse engineer a new one, In his own way. Rather Im interested in some of the materials he has used. He has been most generous with his photos & processes as I & many others have done on this forum which is for the shearing of ideas.

What Yuriy has done is show that a cartridge can be made relatively simply by those that have the relative skills.


Thees things often come down to sourcing very small amounts of materials.

We can't bye a cantilever of this specific type we have to buy perhaps 1m of material & use 20mm.

we can only buy perhaps a 100m of wire & use only 1m

no one will sell a stylus diamond so we have to use what we can.

So is it not right to ask questions as to what & where materials can be soured from.

 Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #35 on: July 25, 2017, 03:15:28 AM »

Dear friends! I will only be glad if my information is useful to someone. I am ready to answer your questions, concerning a design and technology, and I will be happy if someone, begins to build the project, making use of my experience.

 Logged

Yuriy

dauphine

RIP: gone but not forgotten
Member



☐ Offline

Location: Cape Town
South Africa
Posts: 920

**Re: Neumann DST copy???**

« Reply #36 on: July 25, 2017, 10:30:42 AM »

Yeah, well no fine, as they say in Cape Town 🙄

If Yuriy is happy to share his achievements, I have no problem with that. It is possible that I misjudged the spirit of sharing and openness of Lencoheaven.net.

My apologies to all who might have been offended by my post which was probably influenced by years of lonely research and thousands of hours spent in my workshop messing about with needles.

andre

Logged

Andre

If you don't like my principles, I have many others - Groucho Marx

timelog

Member



☐ Offline

Posts: 1,396

**Re: Neumann DST copy???**

« Reply #37 on: July 25, 2017, 11:05:04 AM »

In many countries is fully accepted to apply patented innovation/intellectual property for strictly personal use (commercial use not allowed). Allowed copying of book for own use is logically same as building of replica of pickup. This depends on country, like in China and USA rules are different.

Logged

Jay

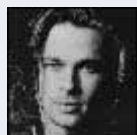
Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's
'Lenco' James

**Re: Neumann DST copy???**

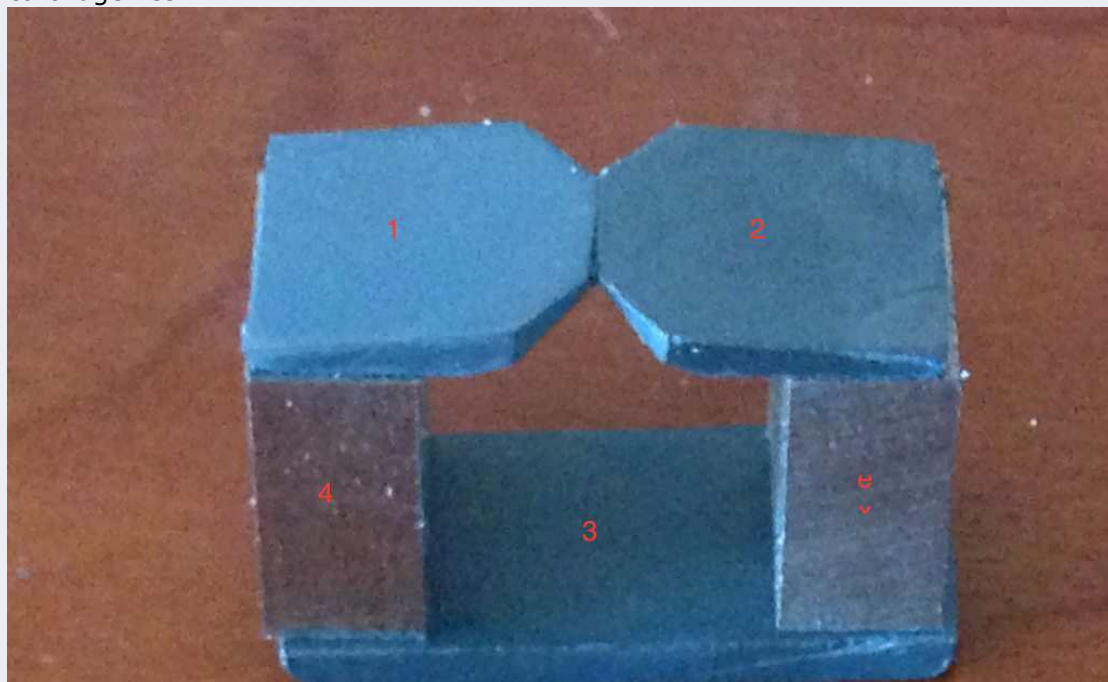
« Reply #38 on: July 25, 2017, 05:51:22 PM »

Yuriy,

We are now getting somewhere. 🙄

Parts 1,2 & 3 Are soft permalloy from a field coil loudspeaker, Yes?

Parts 4 & 5 (not sure what happened to the 5) are Magnets from Ortofon spu-mono cartridge Yes?





As I don't have any old Ortofons or other MM carts to cull parts from.
Anyone, suggestions please for parts 4 & 5 Magnets.
Could Neo magnets be used?
Or would AlNiCo be better for this use?

« Last Edit: July 25, 2017, 05:57:28 PM by Jay »

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #39 on: July 25, 2017, 06:30:04 PM »

Jay,
I have searched through the usual places and found out that there are a lot of offerings with almost every possible dimensions one might need. As I understand the problem is the orientation of the magnetic field.
A local audio developer has informed me that he may source some TiNiCo magnets which he is using in his headphones mods but he needs dimensions of the magnets needed which currently I do not have.

Best,
Alexander.

 Logged

Alexander.

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937




Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« Reply #40 on: July 25, 2017, 06:37:36 PM »

Alexandro,
I was wondering about N S poles as well.
a guesstimate of magnet sizes might be 5 x 8 x 8 mm

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #41 on: July 25, 2017, 08:01:22 PM »

Jay! Absolutely correctly about magnets and permalloy. I had suited magnets from Ortofon (13x10x5.6) Original magnets have a few other sizes (13x10x4) Perhaps you will find magnets with other sizes. Then you will need to change a body design. I recommend Alnico magnets

Yuriy

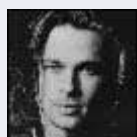
Jay

Member
Member



☐ Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's 'Lenco' James



Re: Neumann DST copy???

« Reply #42 on: July 26, 2017, 05:52:23 PM »

Yuriy,

When you removed the stylus from the cantilever, did you have to 'cut' it away ?

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #43 on: July 26, 2017, 07:13:46 PM »

Yes. Emery paper

Yuriy

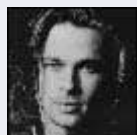
Jay

Member
Member



☐ Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's 'Lenco' James



Re: Neumann DST copy???

« Reply #44 on: July 27, 2017, 05:54:57 PM »

Have posted in the wanted section for any broken cantilevers with stylus attached.

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

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Author

Topic: Neumann DST copy??? (Read 39305 times)

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« **Reply #45 on:** August 13, 2017, 09:51:35 AM »

It sounded fine plenty of mids & trebles, though the base didn't come over via the phone. How does it sound to you say, compared to some other cart you may have.

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« **Reply #46 on:** August 13, 2017, 11:04:15 AM »

It seems to me that the sound closer to the original Neumann DST.

« *Last Edit: August 13, 2017, 05:59:15 PM by Vintagepsych* »

Logged

Yuriy

dava

Member



☐ Offline

Posts: 14

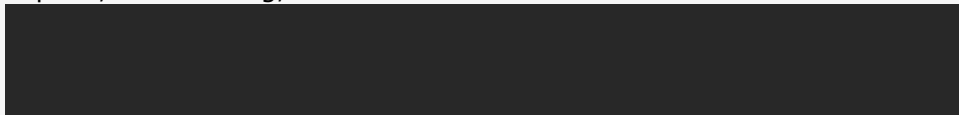


Re: Neumann DST copy???

« **Reply #47 on:** August 13, 2017, 01:20:50 PM »

Hy

My field coil canteliverless neuman dst -ikedada musa combination, 1x0.7 special elliptica,silver wirring,0.1mv





Video unavailable

This video is unavailable



Video unavailable

This video is unavailable



« Last Edit: September 18, 2017, 03:19:02 PM by dava »

Logged

Vintagepsych

Member



Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #48 on: September 16, 2017, 07:08:17 AM »

Dava is magnificent! Very original and interesting design! Can you tell about your work in more detail? Please place more photo.

« Last Edit: September 17, 2017, 07:16:01 AM by Vintagepsych »

Logged

Yuriy

dava

Member



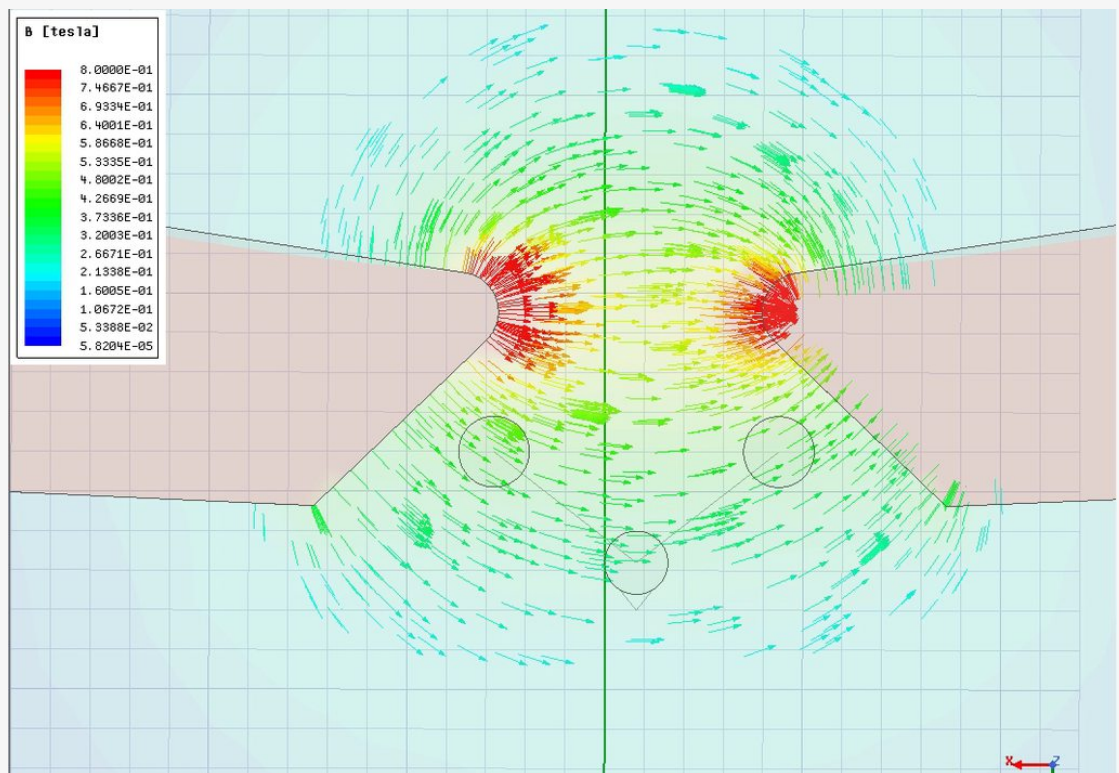
Offline

Posts: 14



Re: Neumann DST copy???

« Reply #49 on: September 24, 2017, 09:42:53 AM »



Quote from: Vintagepsych on September 16, 2017, 07:08:17 AM

Dava is magnificent! Very original and interesting design! Can you tell about your work in more detail? Please place more photo.

Neumann DST. Neuman DST very find linear construction. Field in 45 deg absolutly linearity.

« Last Edit: September 28, 2017, 03:21:51 PM by dava »

Logged

Jay

Member

Member



Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine. Newcastle UK
Posts: 1,937



Re: Neumann DST copy???

« Reply #50 on: October 04, 2017, 04:14:33 PM »

Hi Dava,

What kind of magnets did you use & what metal did you use for the pole pieces.

Hoping to make a DST myself, It's just these last 2 things to source



Caught a bug, it's
'Lenco' James

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

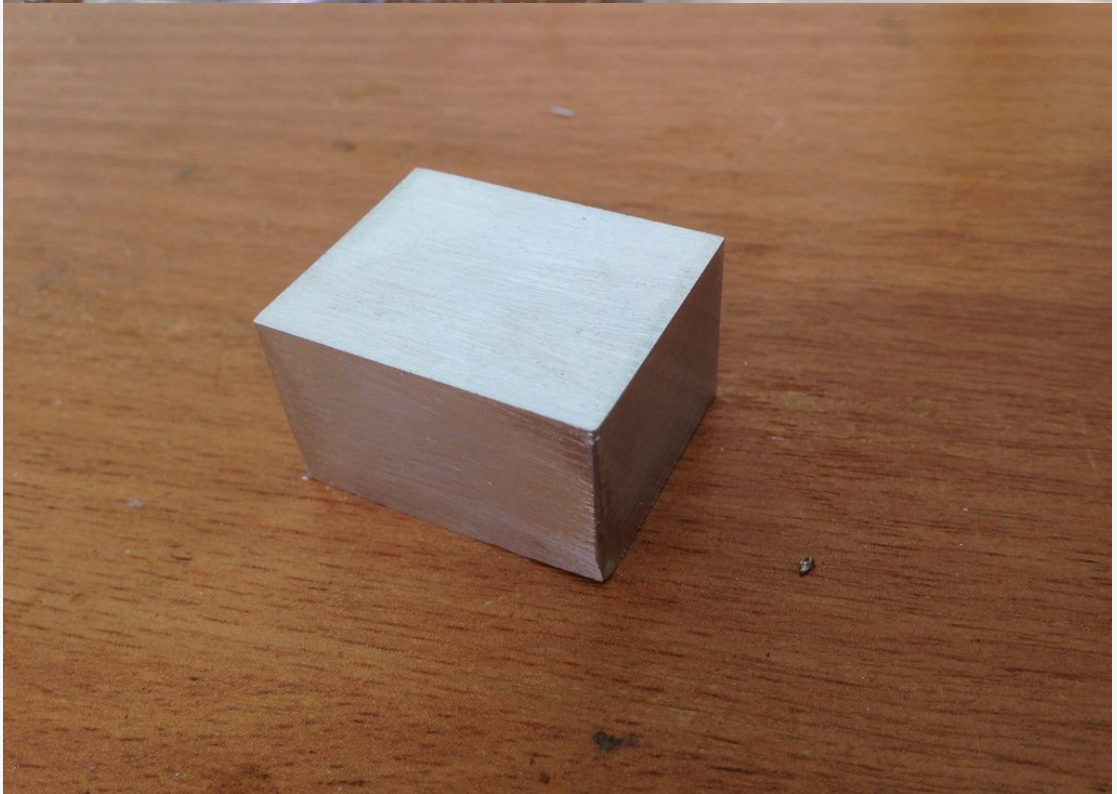
Posts: 195

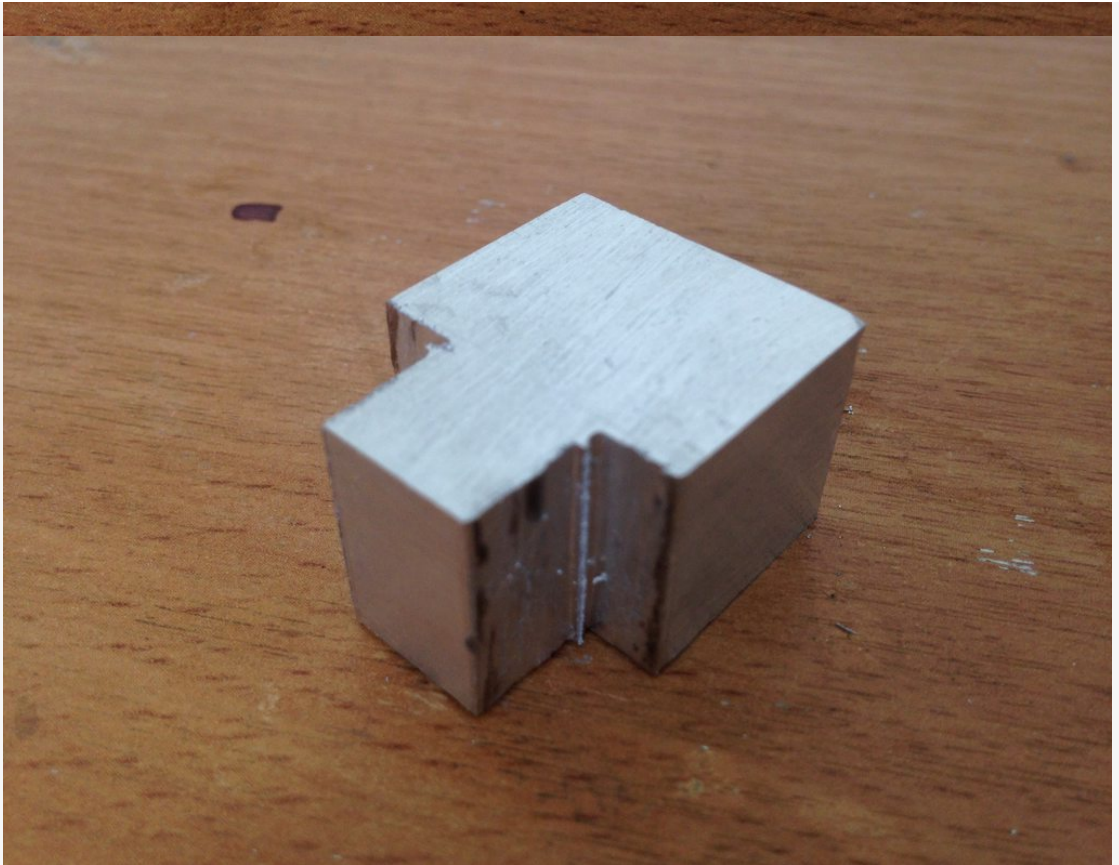


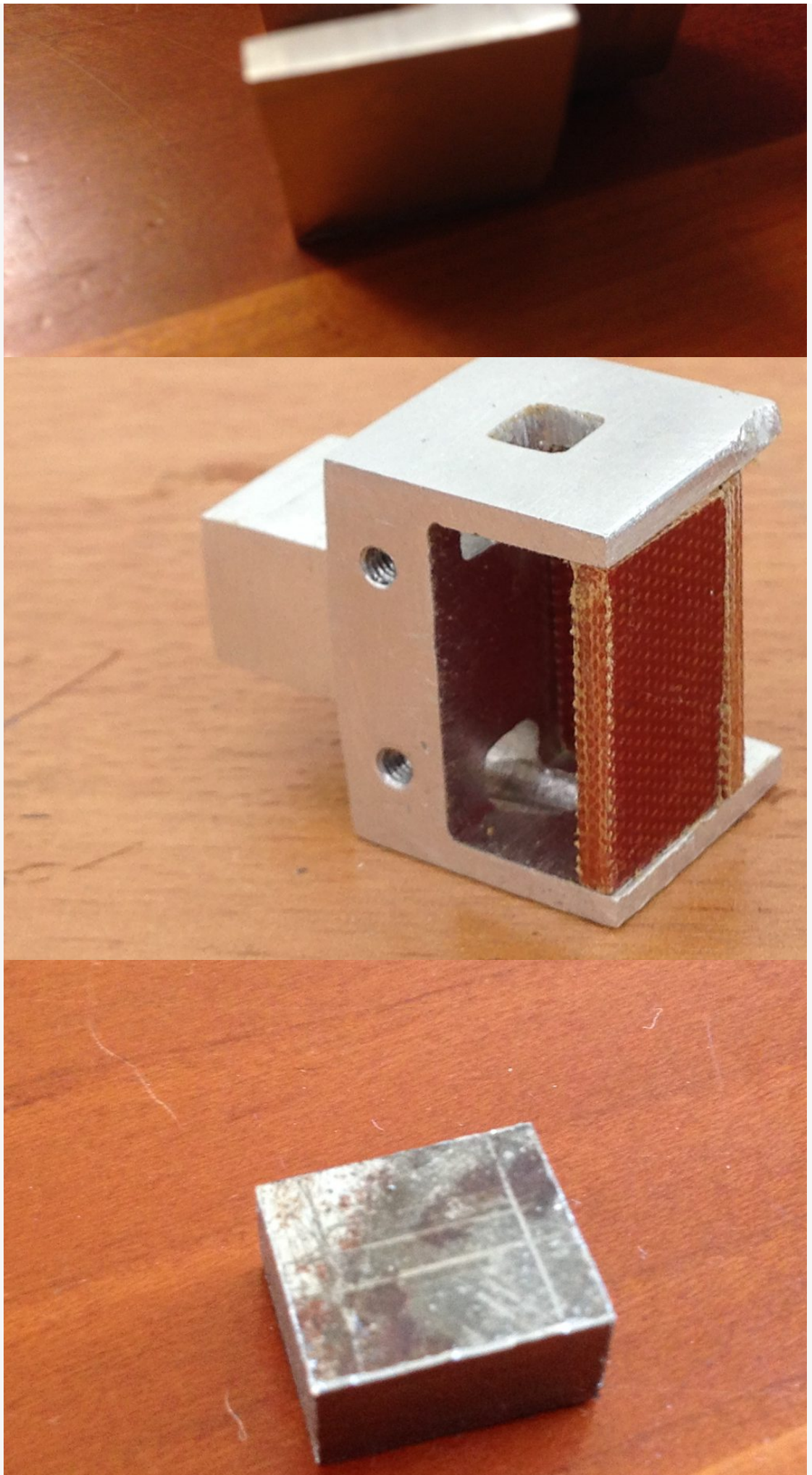
Re: Neumann DST copy???

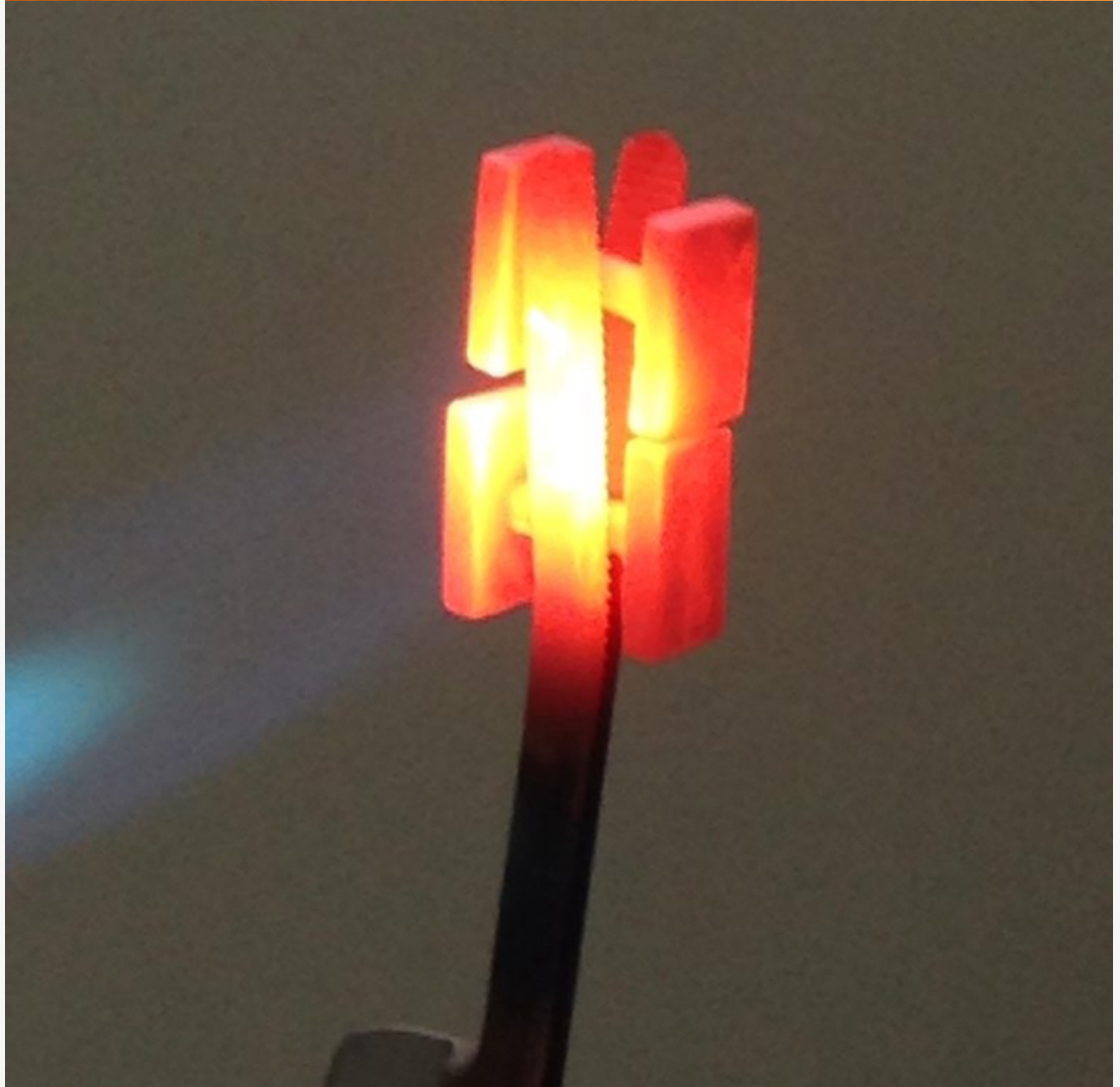
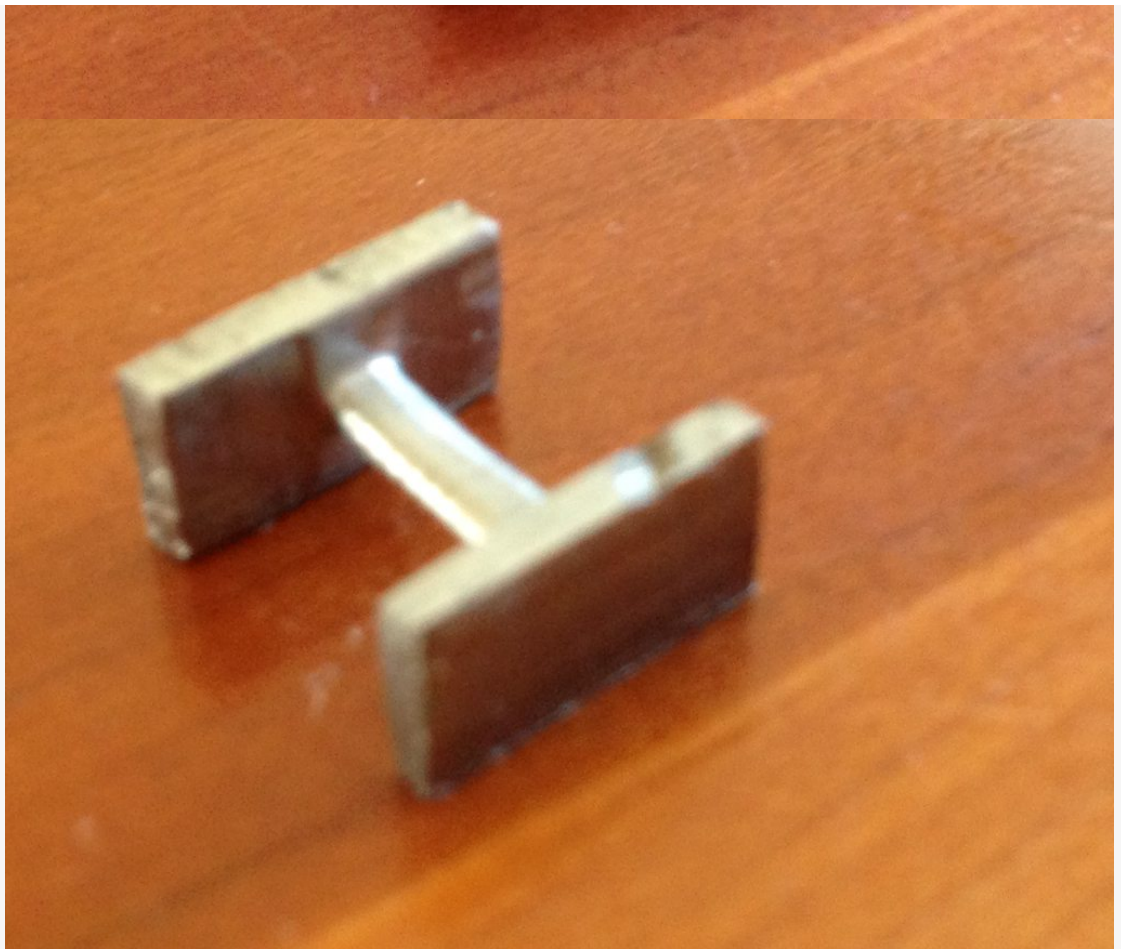
« Reply #51 on: October 05, 2017, 08:04:45 AM »

My new project with electromagnets

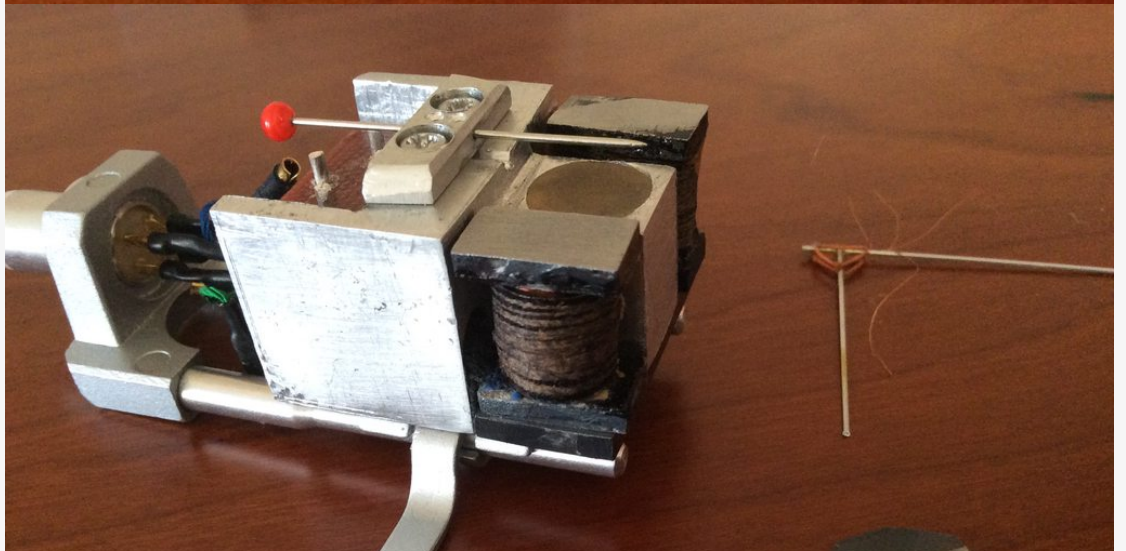
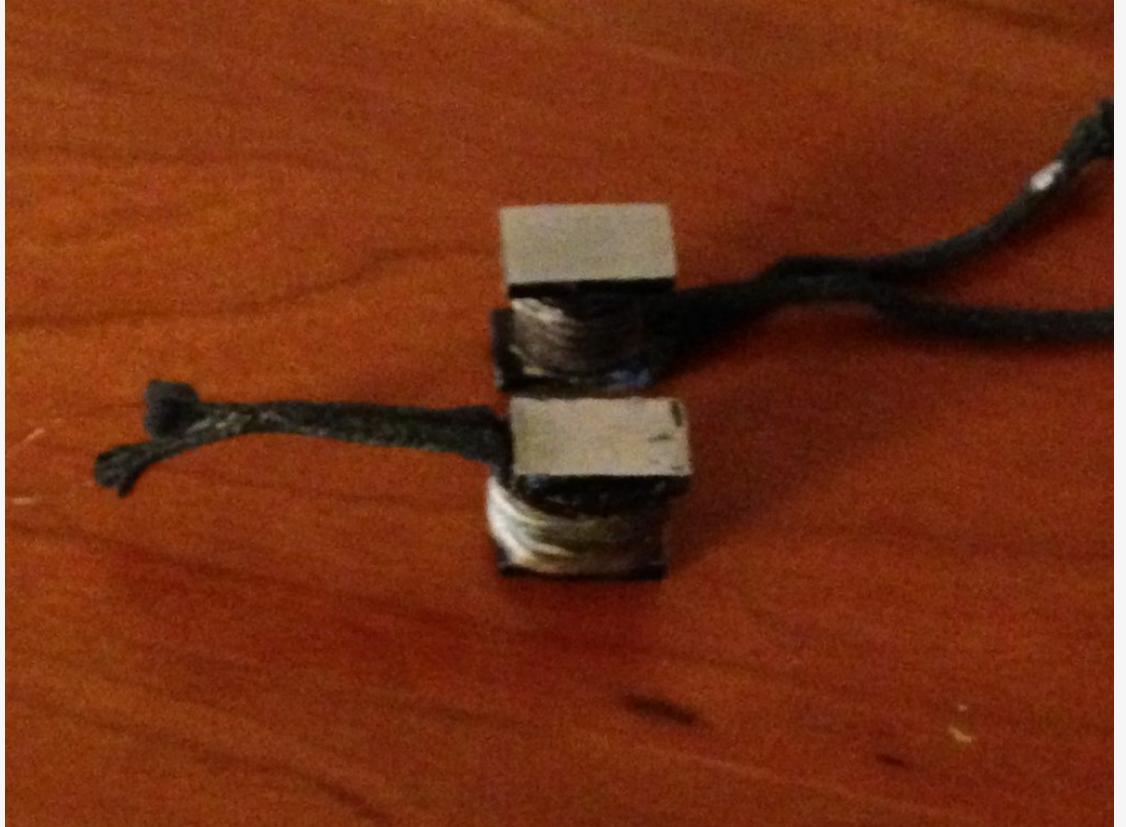














« Last Edit: October 10, 2017, 12:24:42 PM by Vintagepsych »

 Logged

Yuriy

Alexandro

Member



☐ Offline


Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #52 on: October 06, 2017, 11:19:12 AM »

Dear Yuriy,
Could you please share with us more details about your latest development?
Thank you in advance.
Best regards.

 Logged

Alexander.

needlestein

Member



☐ Offline

Age: 53
Location: West
Hartford, CT
Posts: 1,820

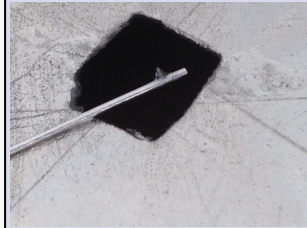


Re: Neumann DST copy???

« Reply #53 on: October 06, 2017, 01:28:47 PM »

Quote from: Vintagepsych on July 22, 2017, 01:07:25 PM

As a kanteliver we use an aluminum tube with a diameter of 0,5 mm. We glue a diamond needle on a canteliver.



Great work!!! One day may my skills rise to this level!

In the meantime, can you provide a source for the aluminum tube?

 Logged

Joseph

Phil

Member



☐ Offline


Age: 40
Location: Devon UK
Posts: 188



Re: Neumann DST copy???

« Reply #54 on: October 06, 2017, 01:38:47 PM »

Excellent work thank you for taking the to time to document it and share with us.

 Logged

Phil

Vintagepsych

Member

☐ Offline

Age: 74

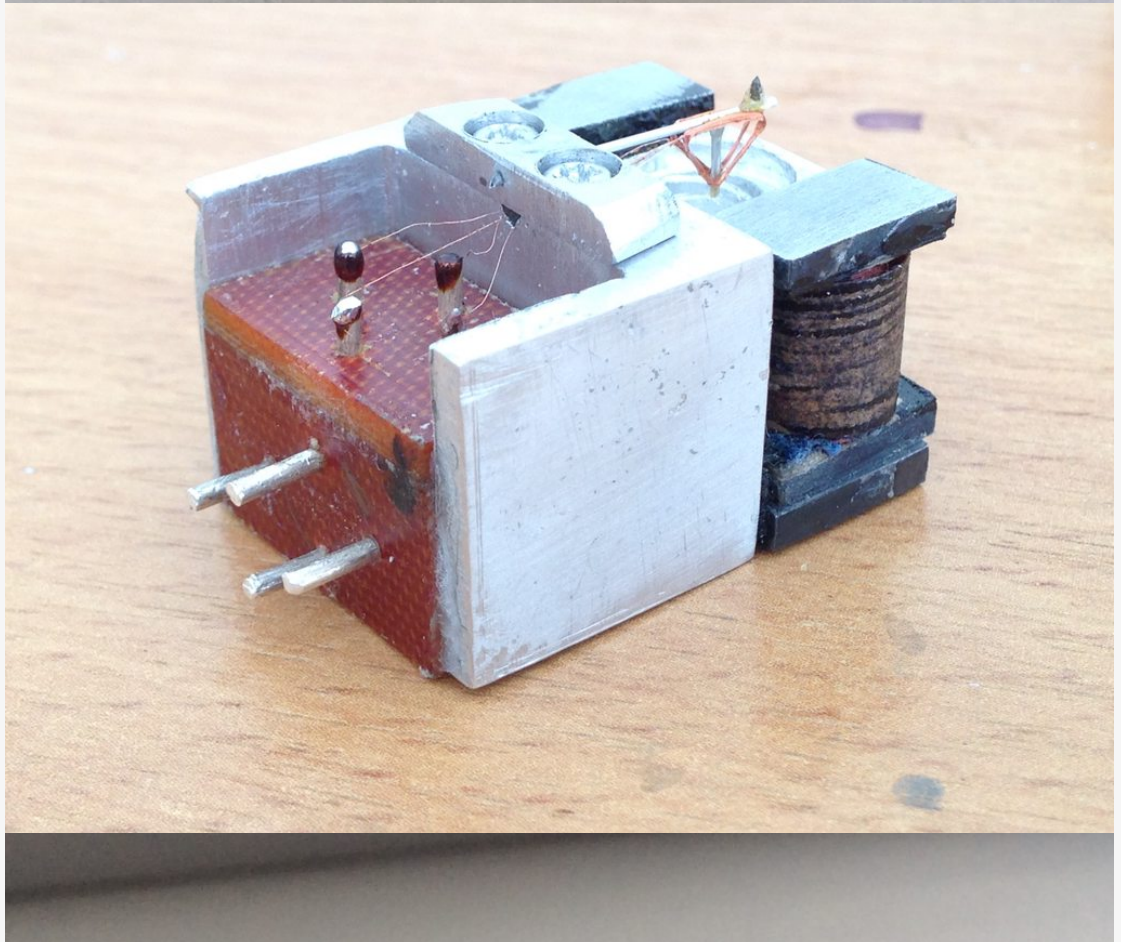
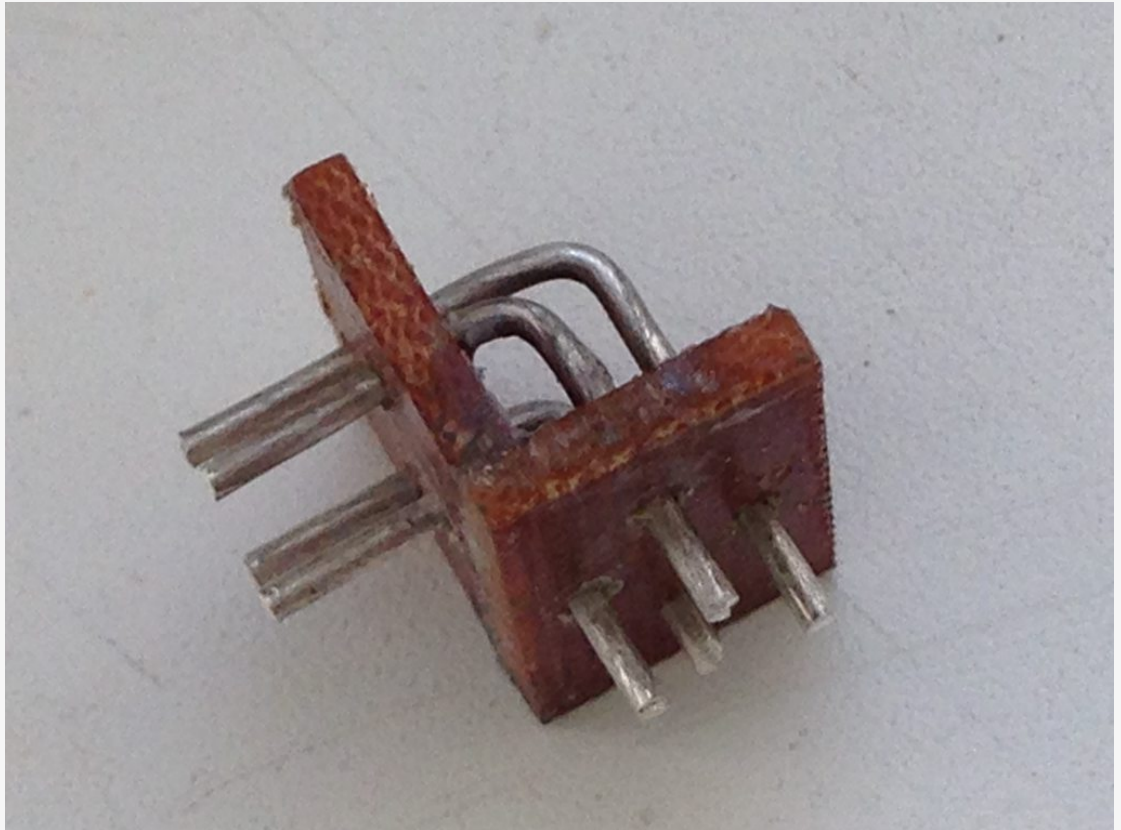
Location: Russia

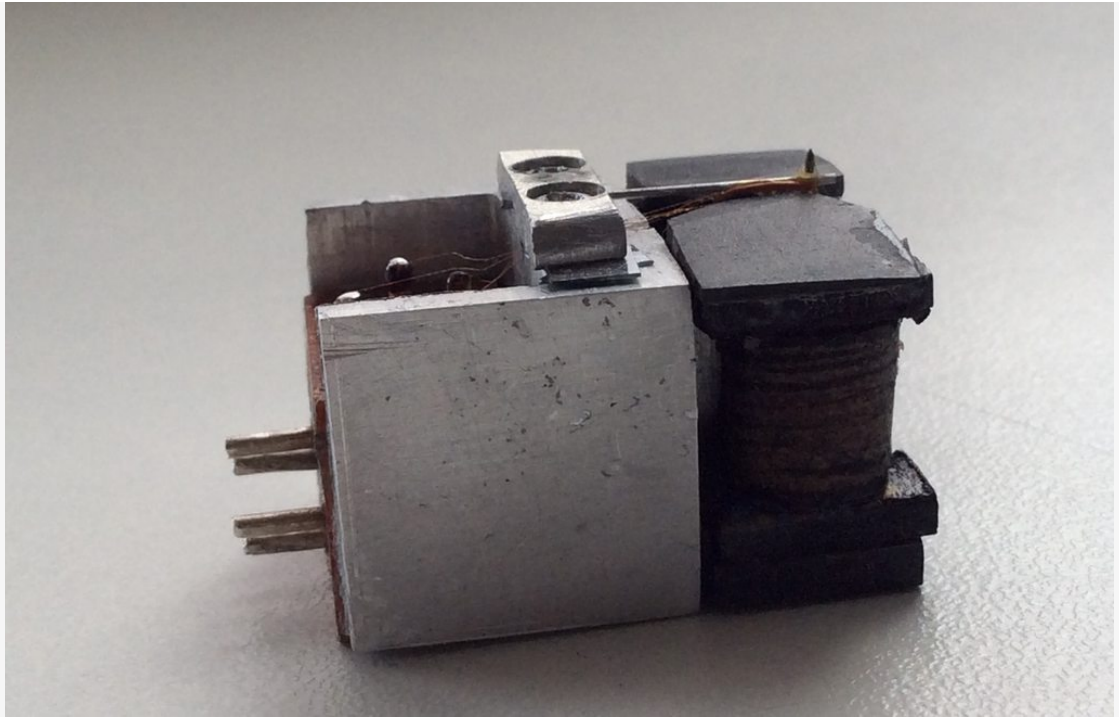
Posts: 195

**Re: Neumann DST copy???**

« Reply #55 on: October 06, 2017, 02:57:24 PM »

Alexander, work isn't finished yet. In this option I have replaced permanent magnets with electromagnets, body of aluminum 6060, polar tips - permendur. All the rest without changes. I will continue to show results, in process of readiness





« Last Edit: October 10, 2017, 12:43:11 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #56 on: October 06, 2017, 03:05:41 PM »

Joseph! For you a source for the aluminum tube

<http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g>



 Logged

Yuriy

needlestein

Member



☐ Offline

Age: 53

Location: West



Re: Neumann DST copy???

« Reply #57 on: October 06, 2017, 05:25:41 PM »

Quote from: Vintagepsych on October 06, 2017, 03:05:41 PM

Joseph! For you a source for the aluminum tube

Hartford, CT
Posts: 1,820

[http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-](http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g)



[of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g](http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g)

Thanks. Using this information, I was able to find a more local source of the same product. This has been a big help.

 Logged

Joseph

Vintagepsych

Member



☐ Offline

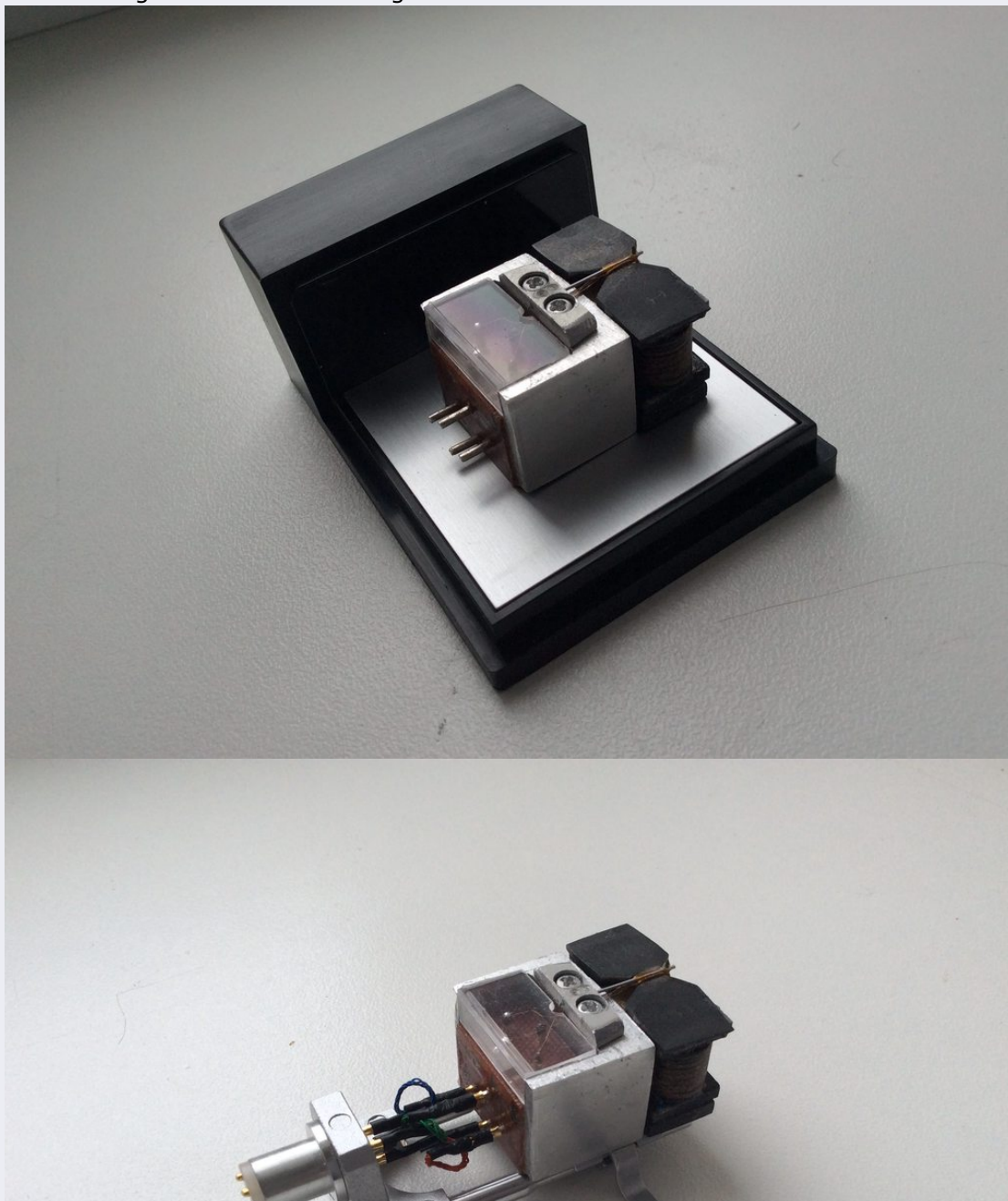
Age: 74
Location: Russia
Posts: 195

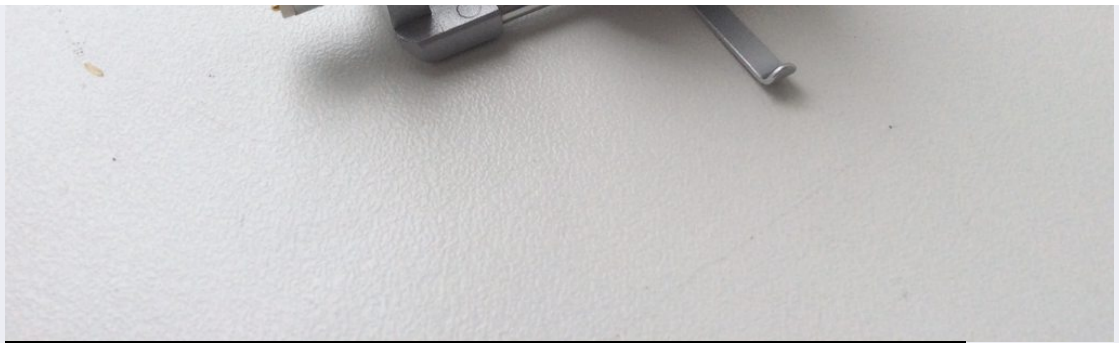


Re: Neumann DST copy???

« Reply #58 on: October 07, 2017, 02:03:25 PM »

The cartridge is built and works great





Body - aluminum 6060, aluminium cantilever od-0,5 mm, diamond tip sphere r-17 microns, permendur polar tips, voice coils - copper of 0,02 mm, two electromagnets, cores - soft magnetic steel, coils copper 0,05mm, pure silver audio connectors

« Last Edit: May 19, 2023, 07:09:49 AM by Vintagepsych »

Logged

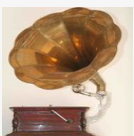
Yuriy

wer
Member



☐ Offline

Location: Catalunya
Posts: 9,120



Re: Neumann DST copy???

« **Reply #59 on:** October 07, 2017, 02:14:01 PM »

Thank You!



Yuriy, what is the approximate weight of cartridge + headshell

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

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Author

Topic: [Neumann DST copy???](#) (Read 39306 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« [Reply #60 on: October 07, 2017, 02:21:59 PM](#) »

Hi Werner!



« *Last Edit: October 09, 2017, 09:47:50 AM by Vintagepsych* »

Logged

Yuriy

wer
Member

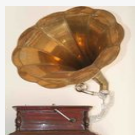


Re: Neumann DST copy???

« [Reply #61 on: October 07, 2017, 02:33:42 PM](#) »

☐ Offline

Location: Catalunya
Posts: 9,120



Not a lightweight 🤖

But it looks very businesslike.

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's
'Lenco' James



Re: Neumann DST copy???

« **Reply #62 on:** October 07, 2017, 04:49:40 PM »

It Would be very helpful if we knew what the NS pole orientation of the magnets used was.

Which might be the best type Alnico or Neo ?
Would Neo magnets not be stronger?

And where on earth do we find the permalloy ?
Ive looked all over the web & not found any in small enough quantities. 2-3 mm Thickness X W 10mm X L 15mm these are just approximate sizes that would then have to be filed to size & shape.

Hope someone can come up with answers & sources.

Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« **Reply #63 on:** October 07, 2017, 05:24:32 PM »

Jay, magnets are connected so that on one polar tip there was a North and on another the South. As magnetic conductors it is the best of all to use permendur or permalloy, but it is possible to use details from loudspeakers as I did. About alnico or neo. Neodymium stronger of a magnet, alnico sounds better. Even better a sound at an electromagnet. But he is even weaker than alnico.

« *Last Edit:* October 07, 2017, 06:15:49 PM by
Vintagepsych »

Logged

Yuriy

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Re: Neumann DST copy???

« **Reply #64 on:** October 07, 2017, 06:49:11 PM »

Thanks I have wondered why a stronger magnet wasn't used. The weaker Alnico can sound better!

I understand that the Electro magnets that you have made are different & follow a different design philosophy.
Would you be willing to share the details of how you built them & what materials you used.

Back to the Permalloy or Permendur Co49/Fe49/V 2
Have found a source from Ireland for one piece (the smallest they do is) 12mm x 50mm

Caught a bug, it's
'Lenco' James

rod £168.00 😊

You said you used 'details from a loudspeaker' what part of the speaker did you use?

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #65 on: October 07, 2017, 07:15:15 PM »

Any magnetic conductors. For example these



Logged

Yuriy

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Re: Neumann DST copy???

« Reply #66 on: October 07, 2017, 07:34:15 PM »

Yuriy,

"Any magnetic conductors For example these"

Are these the 'core' that the copper wire would normally be wound around inside the speaker ?

& could this 'core' then be cut to size & shape to form the 2 pole pieces & base piece of the DST type cartridge ?

« Last Edit: October 07, 2017, 08:16:34 PM by Jay »

Logged

Caught a bug,it's
'Lenco' James

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

dava

Member



☐ Offline

Posts: 14



Re: Neumann DST copy???

« Reply #67 on: October 07, 2017, 09:14:19 PM »

Quote from: Vintagepsych on October 07, 2017, 05:24:32 PM

Jay, magnets are connected so that on one polar tip there was a North and on another the South. As magnetic conductors it is the best of all to use permendur or permalloy, but it is possible to use details from loudspeakers as I did. About alnico or neo. Neodymium stronger of a magnet, alnico sounds better. Even better a sound at an electromagnet. But he is even weaker than alnico.

Alnico warmer ,but need no winds,mo winds mo moving mass weght and distortion.Electromagnet haw week sound on my cartridge too.Tray somarium.
Permandur on electromagnet not help,he help on hight 20000 gous force,you gat 24000 gous with permanur.
Congragulation Yuriy.Looks nice.

Logged

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James

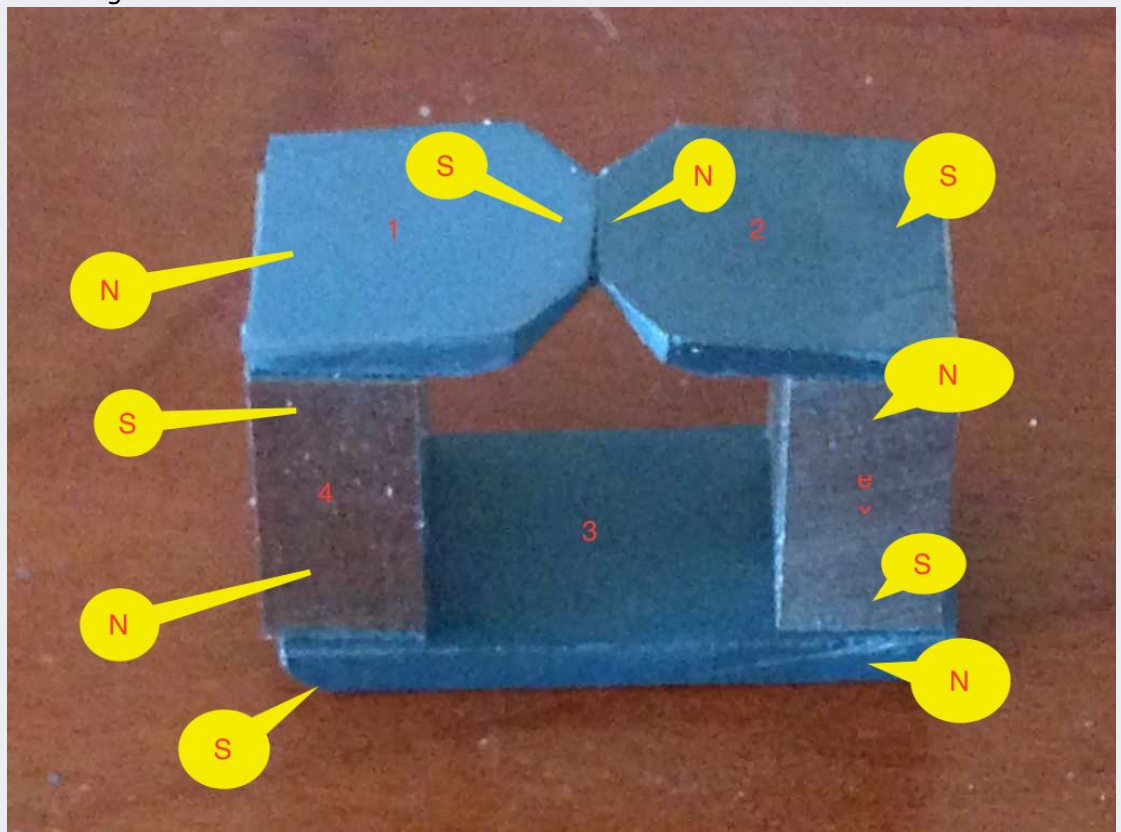


Re: Neumann DST copy???

« Reply #68 on: October 07, 2017, 11:13:59 PM »

I'm just wondering, could all the parts in this picture be made from AlNico 5 magnetic bar ?

And aligned in this fashion



Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

dava

Member



Offline

Posts: 14

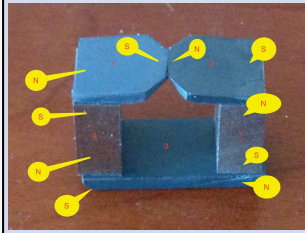


Re: Neumann DST copy???

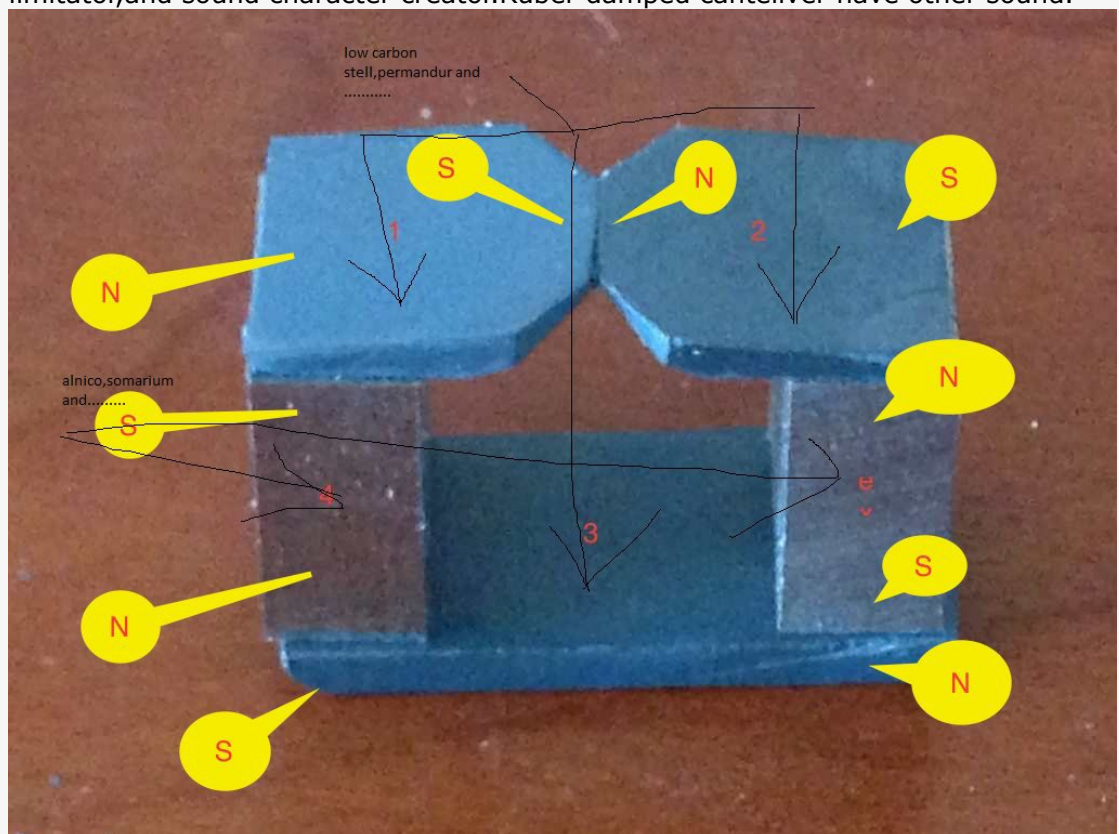
« Reply #69 on: October 08, 2017, 10:57:02 AM »

Quote from: Jay on October 07, 2017, 11:13:59 PM

I'm just wondering, could all the parts in this picture be made from AlNico 5 magnetic bar ?
And aligned in this fashion



Magnets orientation ok. Neumann dst torsion 15000mhz resonant frequency limitator, and sound character creator. Ruber damped canteliver have other sound.



« Last Edit: October 08, 2017, 09:32:43 PM by dava »

Logged

Jay

Member

Member



Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's 'Lenco' James



Re: Neumann DST copy???

« Reply #70 on: October 14, 2017, 09:46:19 AM »

I now have most of the parts needed (Alnico magnets have been ordered) to start the DST type cartridge.

Still having problems sourcing the Permalloy. Don't have any loudspeakers to take apart.

I have some E's from a transformer that I think are made from Permalloy or similar type of material.

Though if I do use these then it would be a laminate & not a solid block to form the base & pole pieces. Any thoughts on using these?

« Last Edit: October 14, 2017, 10:51:44 AM by Jay »

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Jay

Member
Member



Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« Reply #71 on: October 14, 2017, 01:06:05 PM »

A couple of general questions.

- 1, does the magnet assembly need to be Earthed ?
- 2, how do you tell which is the positive & ground from each of the coils ?

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #72 on: October 14, 2017, 09:04:35 PM »

1. In original Neumann DST the magnetic system is grounded. I in my project of it didn't do.
2. Plus and minus in voice coils are defined experimentally after final assembly of a cartridge.
3. As a magnetic conductor it is the best of all to use parts of the loudspeaker.

Logged

Yuriy

Vintagepsych

Member



Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #73 on: October 14, 2017, 09:39:15 PM »

One more video with a new cartridge



Yuriy

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« **Reply #74 on:** October 14, 2017, 11:04:07 PM »

Thanks Yuriy,

Yours is looking really good.

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

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Author

Topic: [Neumann DST copy???](#) (Read 39307 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

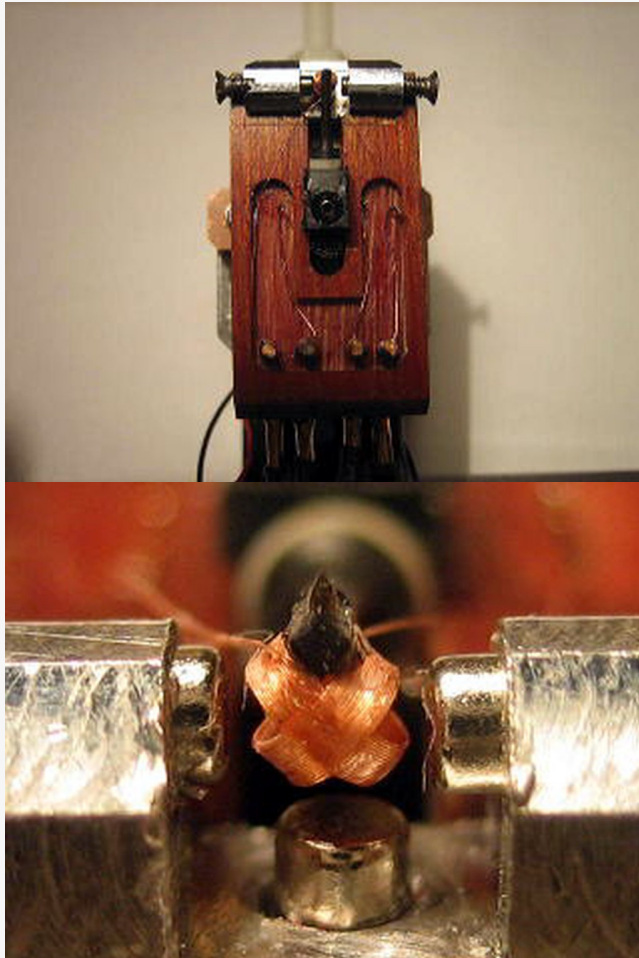
Posts: 195



Re: [Neumann DST copy???](#)

« **Reply #75 on:** October 22, 2017, 01:12:58 PM »

Unique work of the talented Japanese master. Original design of sound coils. Side screws allow to adjust manually magnetic gaps of the right and left channels. The third magnet serves for strengthening and alignment of magnetic field.



« Last Edit: October 23, 2017, 03:36:48 PM by [Vintagepsych](#) »

Logged

Yuriy

Jay

Member
Member



Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's
'Lenco' James



Re: Neumann DST copy???

« Reply #76 on: October 22, 2017, 01:24:16 PM »

Hears my first attempt at winding coils.....

The winding rig.

I unwound the very small MC coil (you can just see it on the left hand vice jaw) onto the larger bobbin & used a Lenco Idler wheel to turn the shaft more smoothly.




The coil was nice & symmetrical until I tried to take it from the pins & then glue it obviously more work needed in this area to get them off nice & clean. fortunately theirs plenty of wire on these small coils.

It's a case off sorting out the problems as they arise.



Thats a very nice arrangement of the coils.
Do you have any more pics of the cartridge?

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #77 on: October 22, 2017, 01:40:32 PM »

I congratulate, Jay! Big step forward. I before removing the coil, fix rounds by varnish.
Then in turn accurately I pull out needles

 Logged

Yuriy

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937




Re: Neumann DST copy???

« Reply #78 on: October 22, 2017, 02:22:59 PM »



Simplicity is almost always the right way !

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

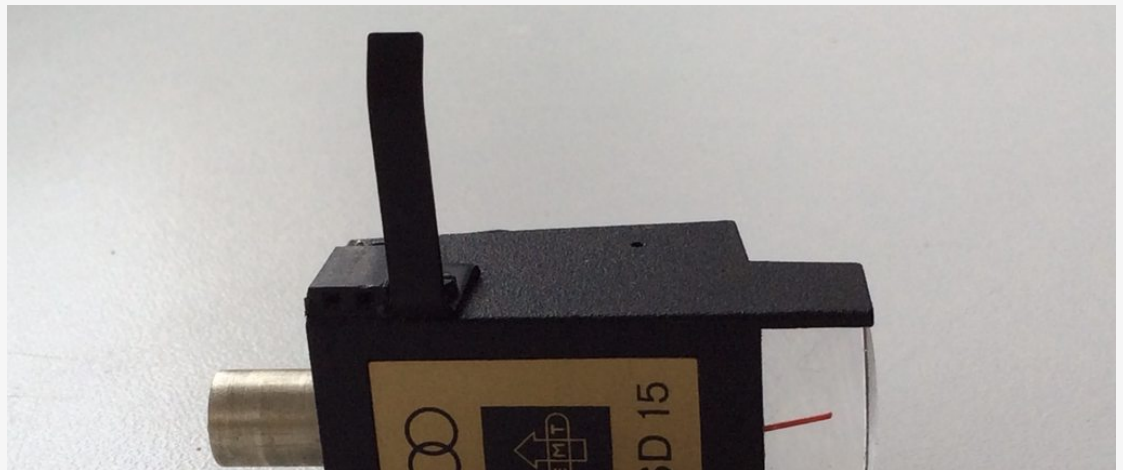
Age: 74
Location: Russia
Posts: 195

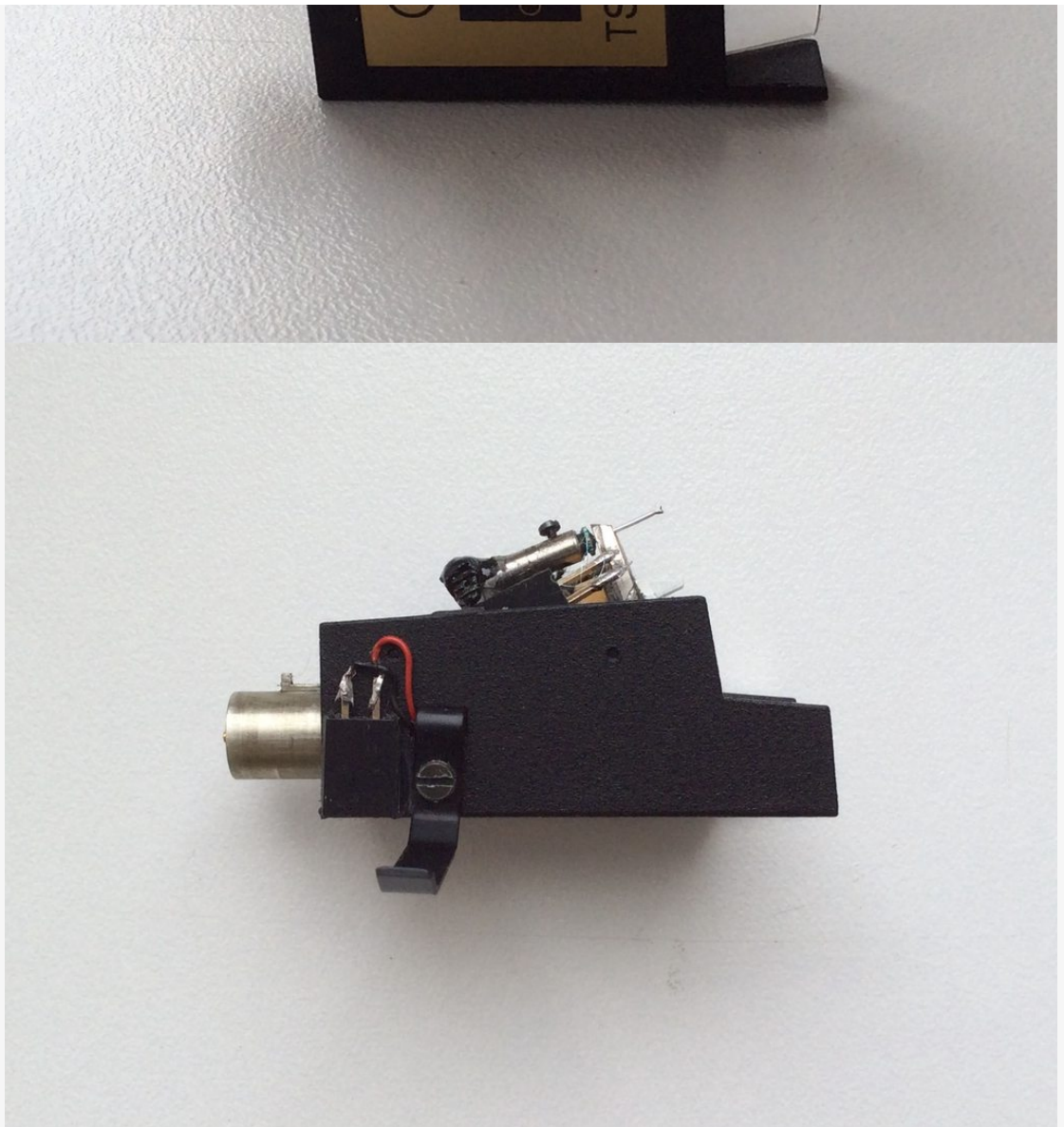


Re: Neumann DST copy???

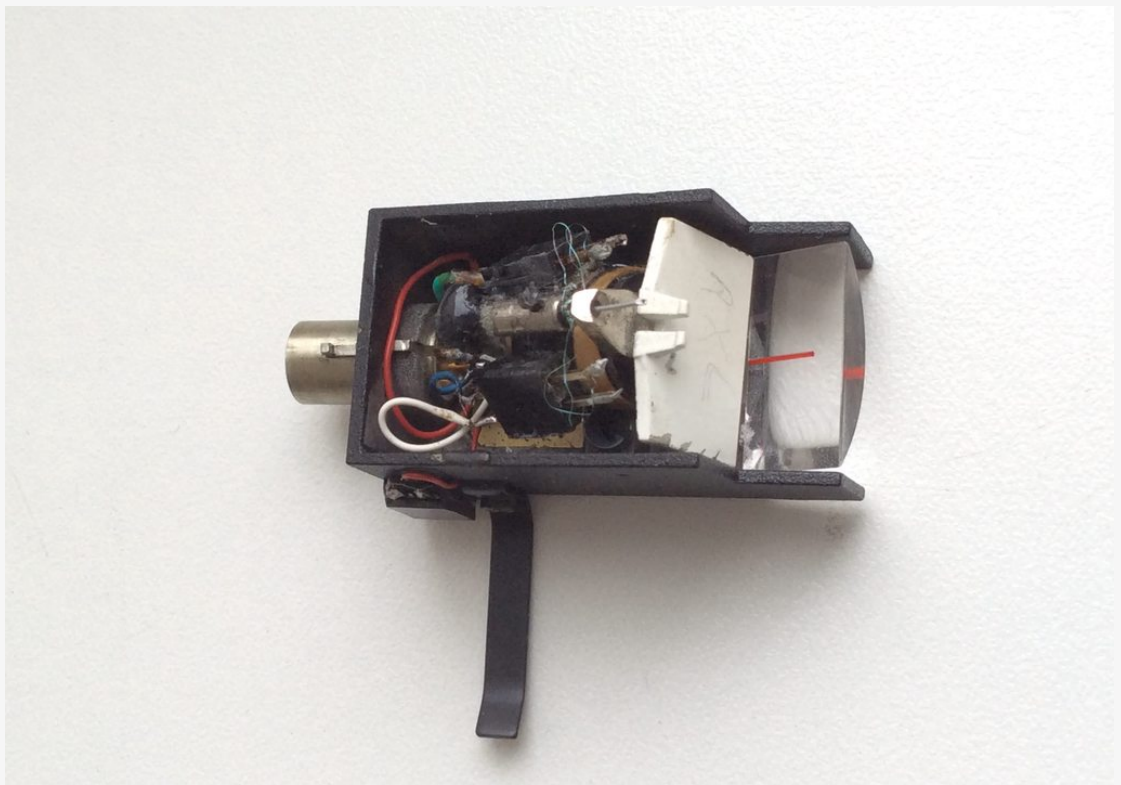
« Reply #79 on: October 23, 2017, 12:49:16 PM »

EMT TSD15 upgrade. I have put a big electromagnet with the core from a permendur
and new sound coils a silver wire





Similar to a small lot of garbage, but a sound tremendous!



« Last Edit: November 17, 2017, 08:23:00 PM by
Vintagepsych »

Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #80 on: October 23, 2017, 03:51:13 PM »



The

MC cartridge with a huge electromagnet. The sound is incredibly magic!

« Last Edit: November 03, 2017, 03:07:04 PM by
Vintagepsych »

Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

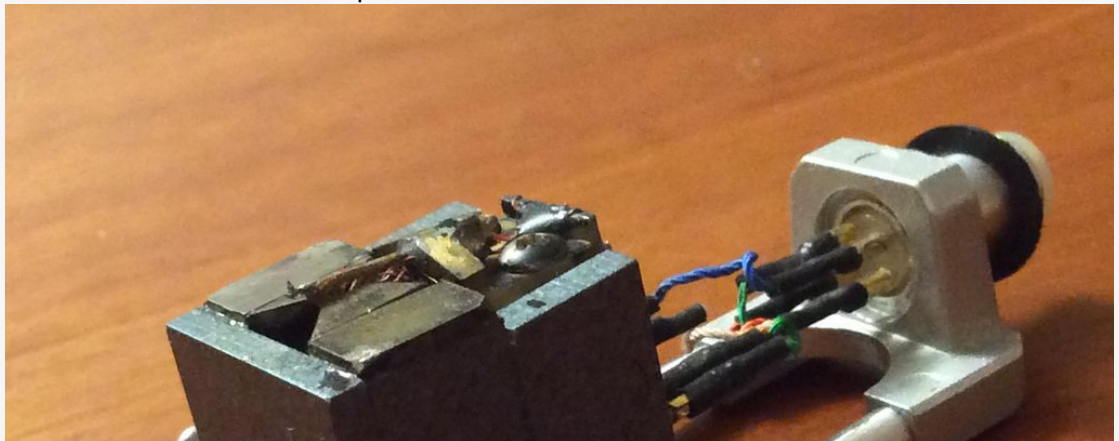
Posts: 195



Re: Neumann DST copy???

« Reply #81 on: November 03, 2017, 03:55:33 PM »

Chiaki Kikuchi's wonderful product - Lumiere DST





My Staff.



Myself. with Bianchi 1980.

« Last Edit: July 21, 2018, 05:40:06 AM by Vintagepsych »

Logged

Yuriy

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's
'Lenco' James



Re: Neumann DST copy???

« Reply #82 on: November 03, 2017, 04:56:09 PM »

Hi Yuriy,
are there any links to their work on cartridges

Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

dauphine

RIP: gone but not
forgotten
Member



Offline

Location: Cape Town
South Africa
Posts: 920



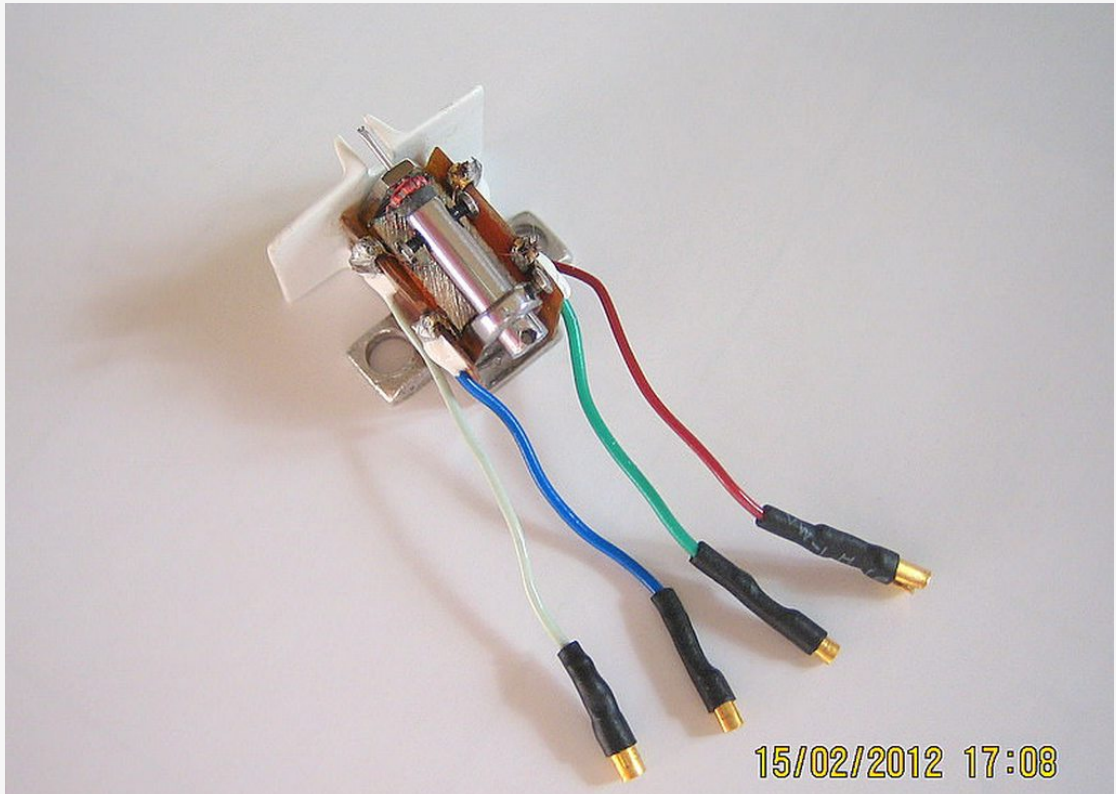
Re: Neumann DST copy???

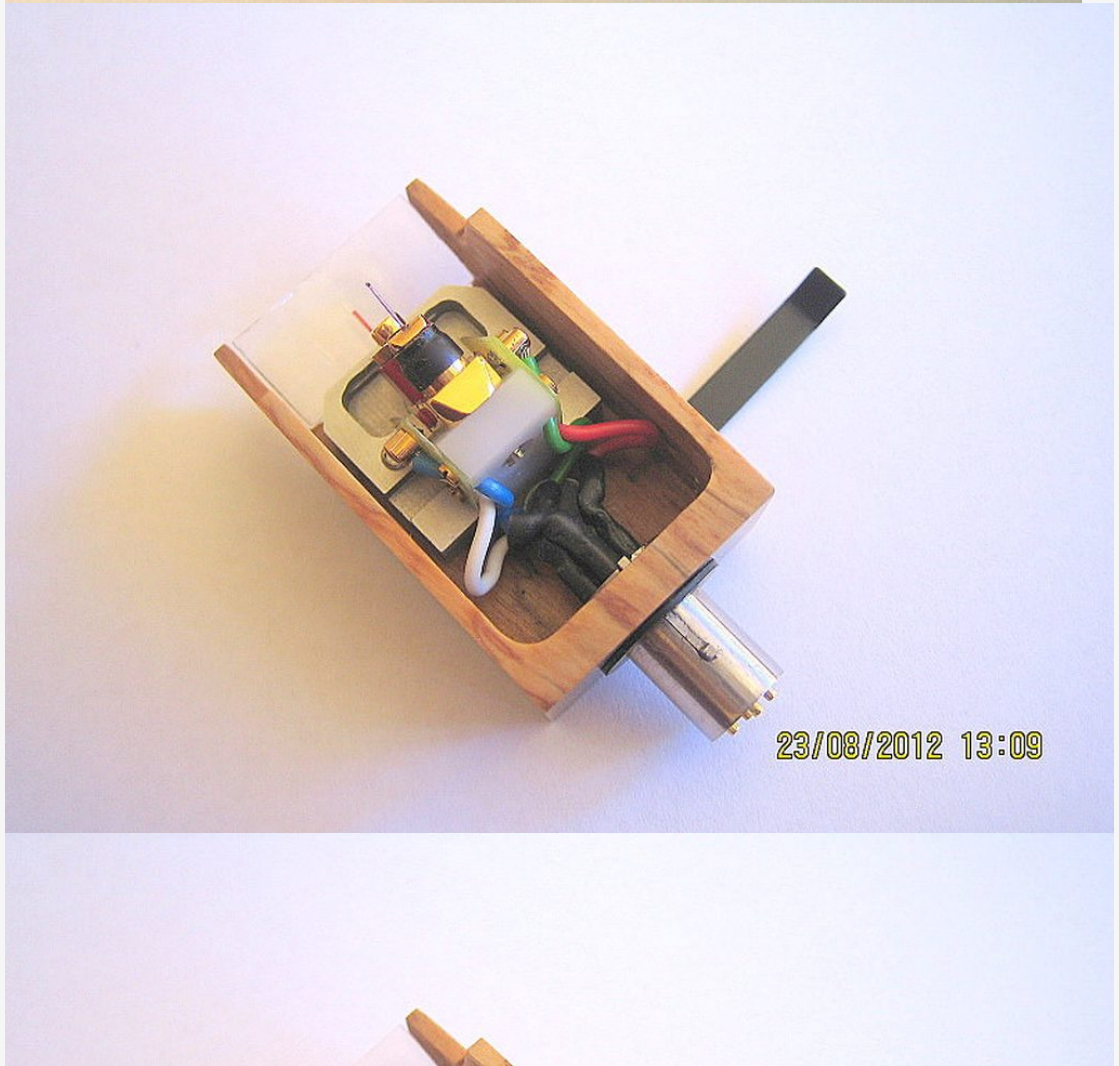
« **Reply #83 on:** November 03, 2017, 08:01:24 PM »

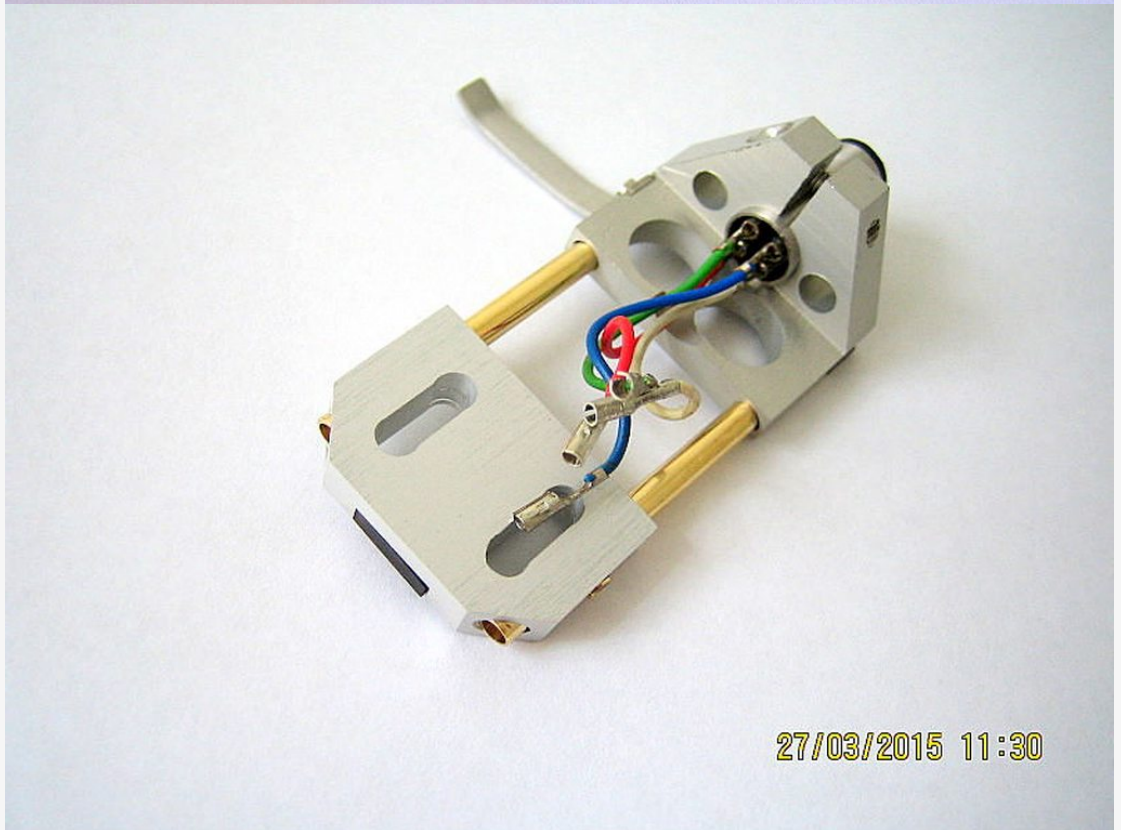
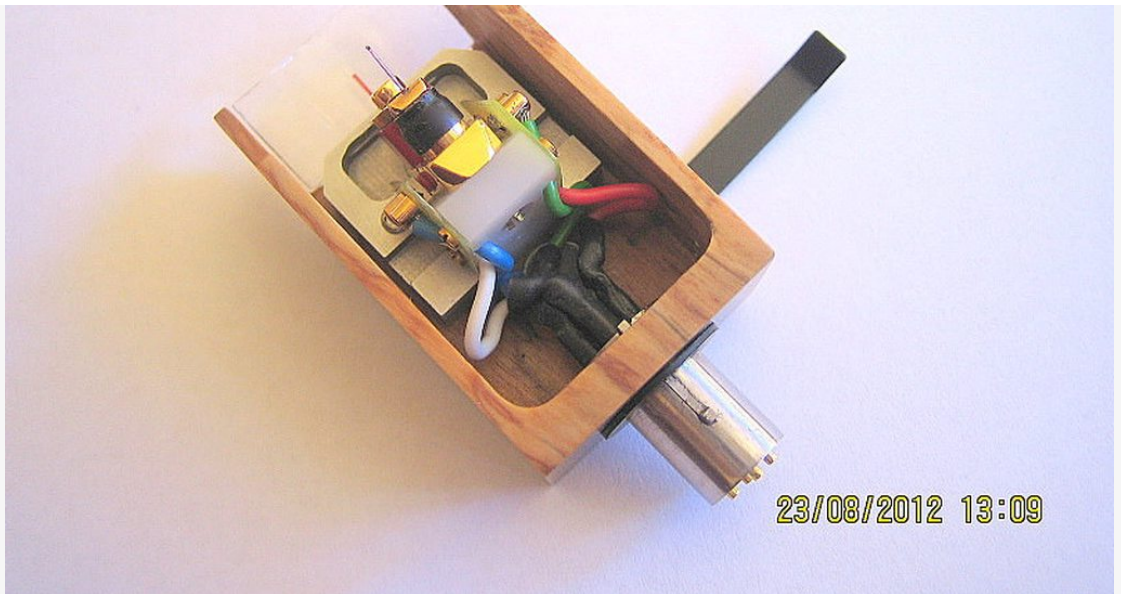
Great work guys 🤖

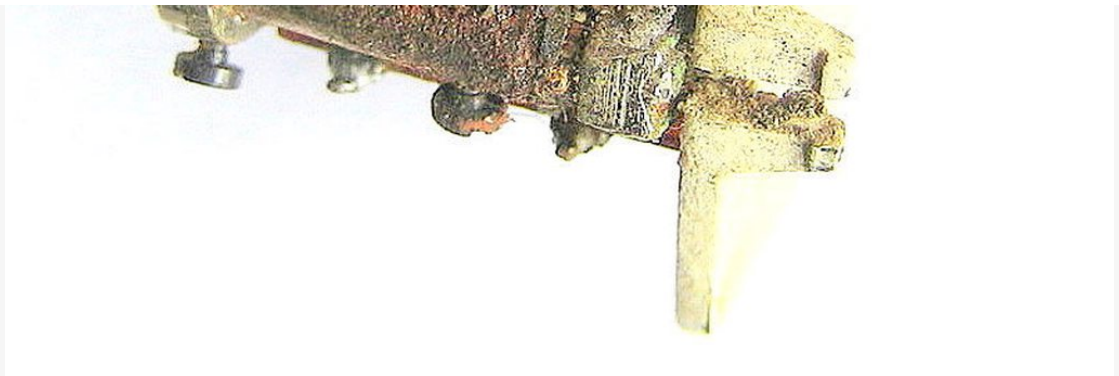
Due to a few health and other problems this year, I haven't done much during 2017 but will clean and clear up my workbench during the coming week.

andre









« Last Edit: November 05, 2017, 11:48:23 AM by dauphine »

 Logged

Andre

If you don't like my principles, I have many others - Groucho Marx

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #84 on: November 03, 2017, 08:20:05 PM »

Hi Andre! Excellent work! Glad to see you! I wrote you to personal mail... Show please your unique project "Gold Neumann"

« Last Edit: November 03, 2017, 10:45:22 PM by Vintagepsych »

 Logged

Yuriy

Jay

Member

Member



☐ Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine. Newcastle UK
Posts: 1,937

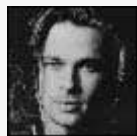


Re: Neumann DST copy???

« Reply #85 on: November 03, 2017, 11:54:03 PM »

Yes really wonderful workmanship.

Wish I understood how the coils & wiring are done.




Caught a bug, it's 'Lenco' James

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

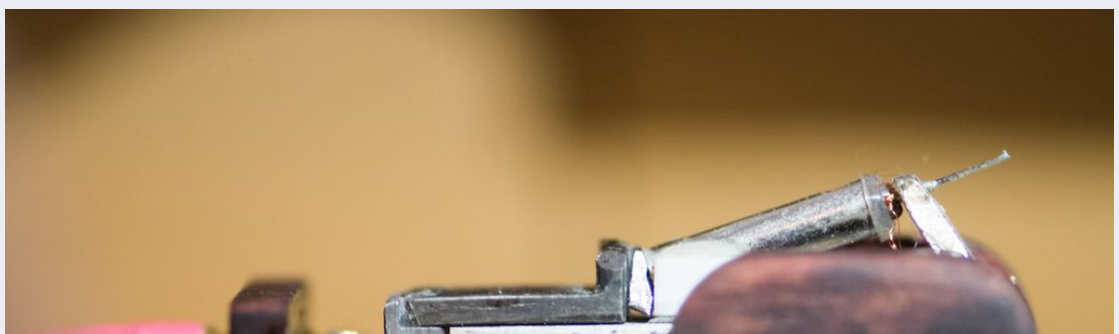
Location: Russia

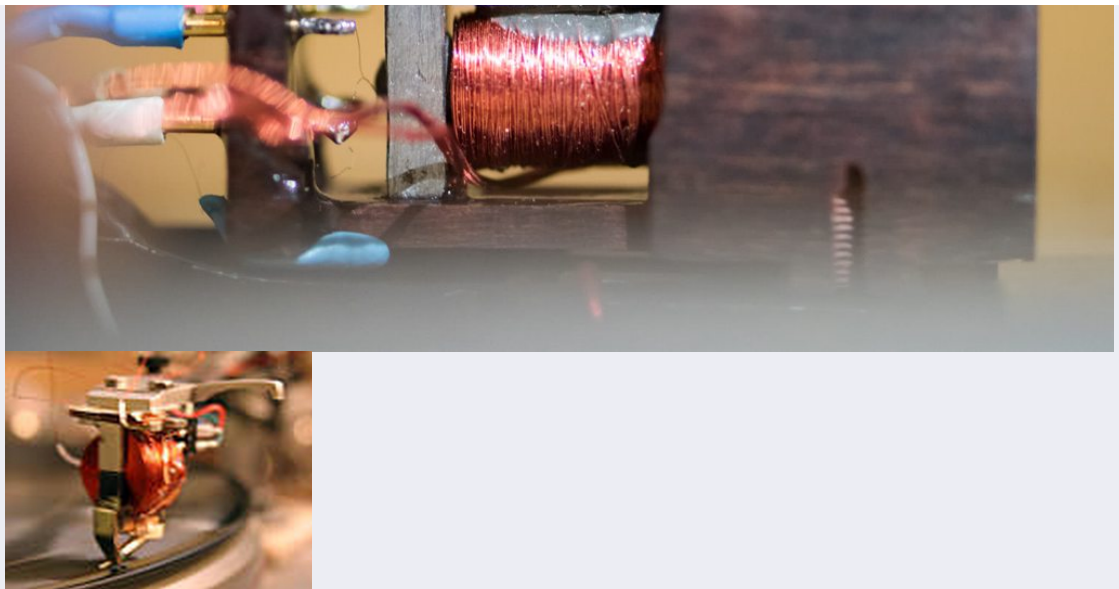
Posts: 195



Re: Neumann DST copy???

« Reply #86 on: November 07, 2017, 12:12:00 PM »





Unfortunately, I don't know a name of the master who made this magnificent field coil cartridge. Perhaps someone knows?

« Last Edit: December 25, 2021, 10:03:36 PM by Vintagepsych »

Logged

Yuriy

reinderspeter

Administrator
Member



☐ Offline

Age: 61
Location: Amsterdam
Posts: 6,621



Re: Neumann DST copy???

« Reply #87 on: November 07, 2017, 12:35:55 PM »

Quote from: Vintagepsych on November 07, 2017, 12:12:00 PM

Unfortunately, I don't know a name of the master who made this magnificent field coil cartridge. Perhaps someone knows?

That one was made by Dave Slagle, I believe:
<http://hifiheroin.blogspot.nl/2017/09/i-see-dead-cartridges.html>
He certainly brought something very similar to last years ETF

Logged

Peter

PTP Audio for Lenco based idler drive Turntables, Chipamps and Power Controllers.

Vintagepsych

Member



☐ Offline

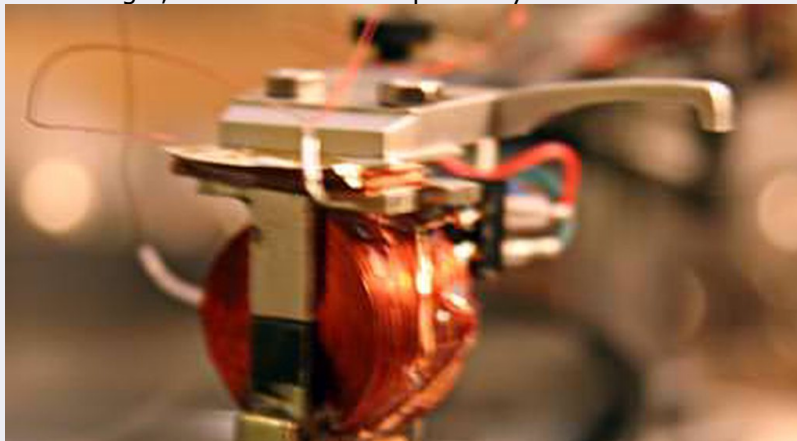
Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???


« Reply #88 on: November 07, 2017, 12:55:04 PM »

Dave Slagle, thanks. And here probably one more its work. It seems, 2010 or earlier!





« Last Edit: November 07, 2017, 01:01:56 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

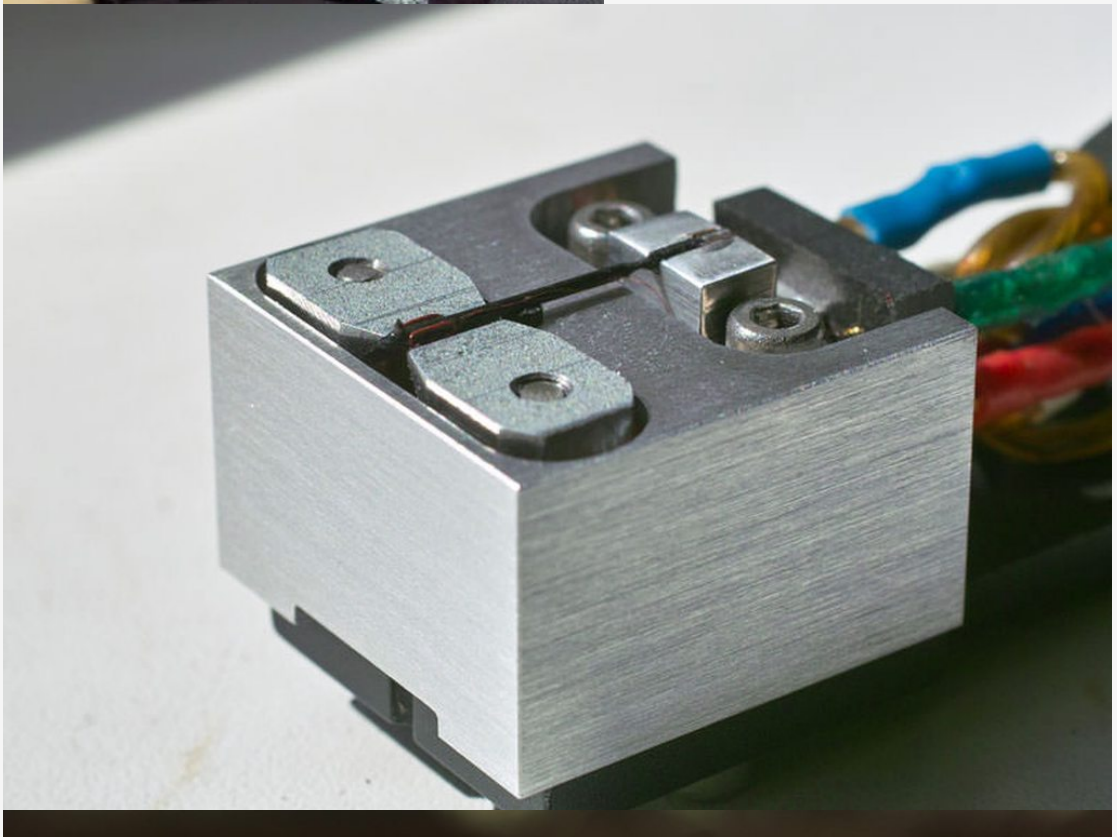
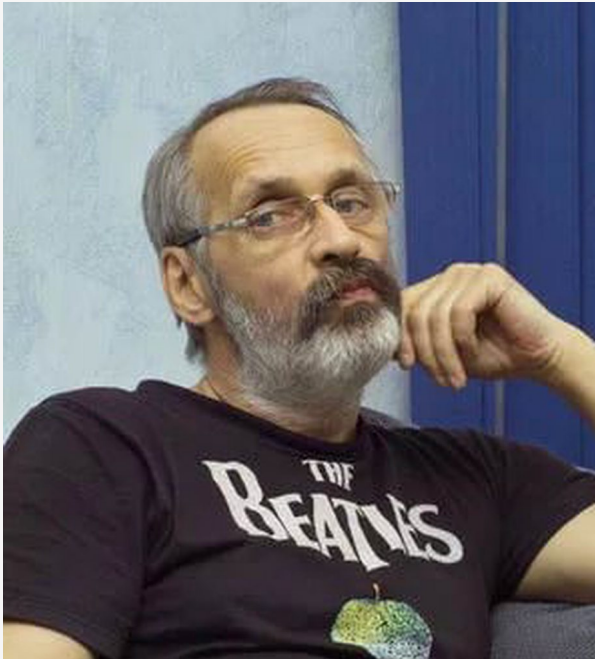
Posts: 195



Re: Neumann DST copy???

« Reply #89 on: November 07, 2017, 04:51:46 PM »

Magnificent Leonid Sinitsyn and his Tzar and Tzar-2





« Last Edit: November 07, 2017, 05:11:37 PM by
Vintagepsych »

 Logged

Yuriy

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Author

Topic: [Neumann DST copy???](#) (Read 39308 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

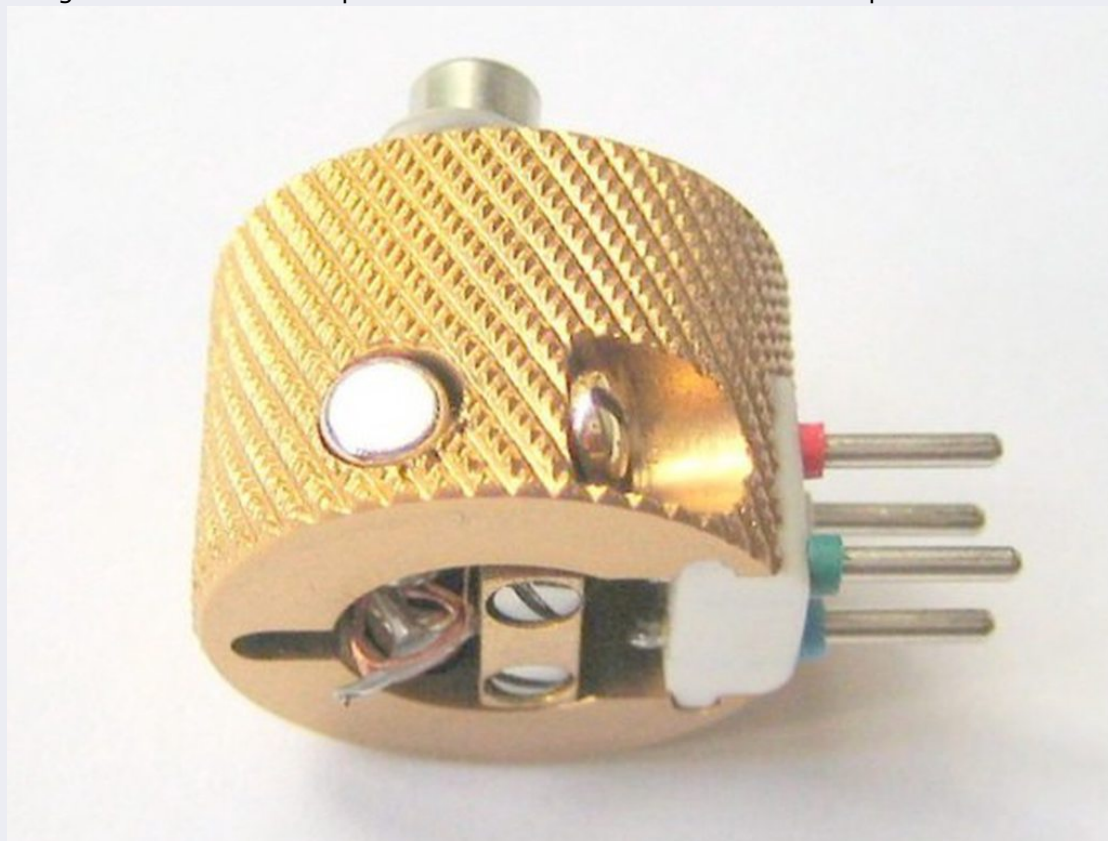
Posts: 195



Re: Neumann DST copy???

« **Reply #90 on:** November 08, 2017, 07:49:49 AM »

Delightful work of our respectable friend Andre Hanekom from Cape Town





Maestro and his well-known Blue Angel Mantis

« Last Edit: August 05, 2018, 08:02:21 AM by Vintagepsych »

Logged

Yuriy

Delta667

Member

☐ Offline

Location: Vladivostok

Posts: 74

sculptor of sound

**Re: Neumann DST copy???**

« Reply #91 on: November 09, 2017, 06:18:17 AM »

Greetings to you Colleagues, hello Yuriy))

I want to ask a question about the cartridge with an electromagnet. How does the nature of its sound change when the polarity of the electromagnet is changed? How does this affect the sound?

Do you use voltage regulation, or current on the coil? How does this affect the sound? Can you affect the tonality of the sound of the cartridge?

« Last Edit: November 09, 2017, 06:27:24 AM by Delta667 »

Logged

best regards

Dmitry

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #92 on: November 09, 2017, 06:54:59 AM »

Hi, Dmitry! I am glad to see you on Lencoheaven. I have begun to experiment with cartridges on electromagnets very long ago. About ten years ago. My first electromagnet - a nail with the reeled-up wire. I have adapted him for a cartridge and the cartridge has started singing. I was struck then by improbable musicality of a sound. I know, as other masters experimented with electromagnets. Great Kondo has constructed the well-known IO LTD. This model seems and today it is available in Audio Note.

As for your questions:

1. The polarity of an electromagnet isn't important.
2. Change of tension of magnetic field does change of a sound

« Last Edit: November 09, 2017, 03:15:54 PM by Vintagepsych »

Logged

Yuriy

Delta667

Member

☐ Offline

Location: Vladivostok

Posts: 74

sculptor of sound

**Re: Neumann DST copy???**

« Reply #93 on: November 09, 2017, 09:25:16 AM »

I expected a slightly different answer))

I experimented with the different position of the moving coils in the magnetic gap and had the ability to affect the tonal balance of the cartridge. But these were permanent cobalt magnets. The narrower the coils are with respect to the width of the magnetic gap (or the wider this gap is with respect to the coils), the larger the sound polytra can be obtained. This required a mechanical displacement of the coils or magnets. With electromagnets, all parts can be left in their places and to control the magnetic field remotely. At least I hope so))

Logged

best regards

Dmitry

Vintagepsych

Member

☐ Offline**Re: Neumann DST copy???**

« Reply #94 on: November 09, 2017, 12:09:47 PM »



With electromagnets similarly. The more tension of magnetic field in a gap, the is

Age: 74
Location: Russia
Posts: 195

brighter a sound. If to reduce tension a sound "dim"

 Logged

Yuriy

dava
Member

 Offline
Posts: 14



Re: Neumann DST copy???

« Reply #95 on: November 30, 2017, 05:34:45 PM »



Quote from: Jay on October 22, 2017, 01:24:16 PM

Hears my first attempt at winding coils.....

The winding rig.

I unwound the very small MC coil (you can just see it on the left hand vice jaw) onto the larger bobbin & used a Lenco Idler wheel to turn the shaft more smoothly.



The coil was nice & symmetrical until I tried to take it from the pins & then glue it obviously more work needed in this area to get them off nice & clean. fortunately theirs plenty of wire on these small coils.
It's a case off sorting out the problems as they arise.



you can turn coil on aluminium rod ,then dissolve aluminium in natriumhydrocsde

Thats a very nice arrangement of the coils.
Do you have any more pics of the cartridge?

needlestein

Member



Offline

Age: 53

Location: West

Hartford, CT

Posts: 1,820



Re: Neumann DST copy???

« Reply #96 on: November 30, 2017, 08:57:32 PM »

Quote from: Vintagepsych on October 06, 2017, 03:05:41 PM

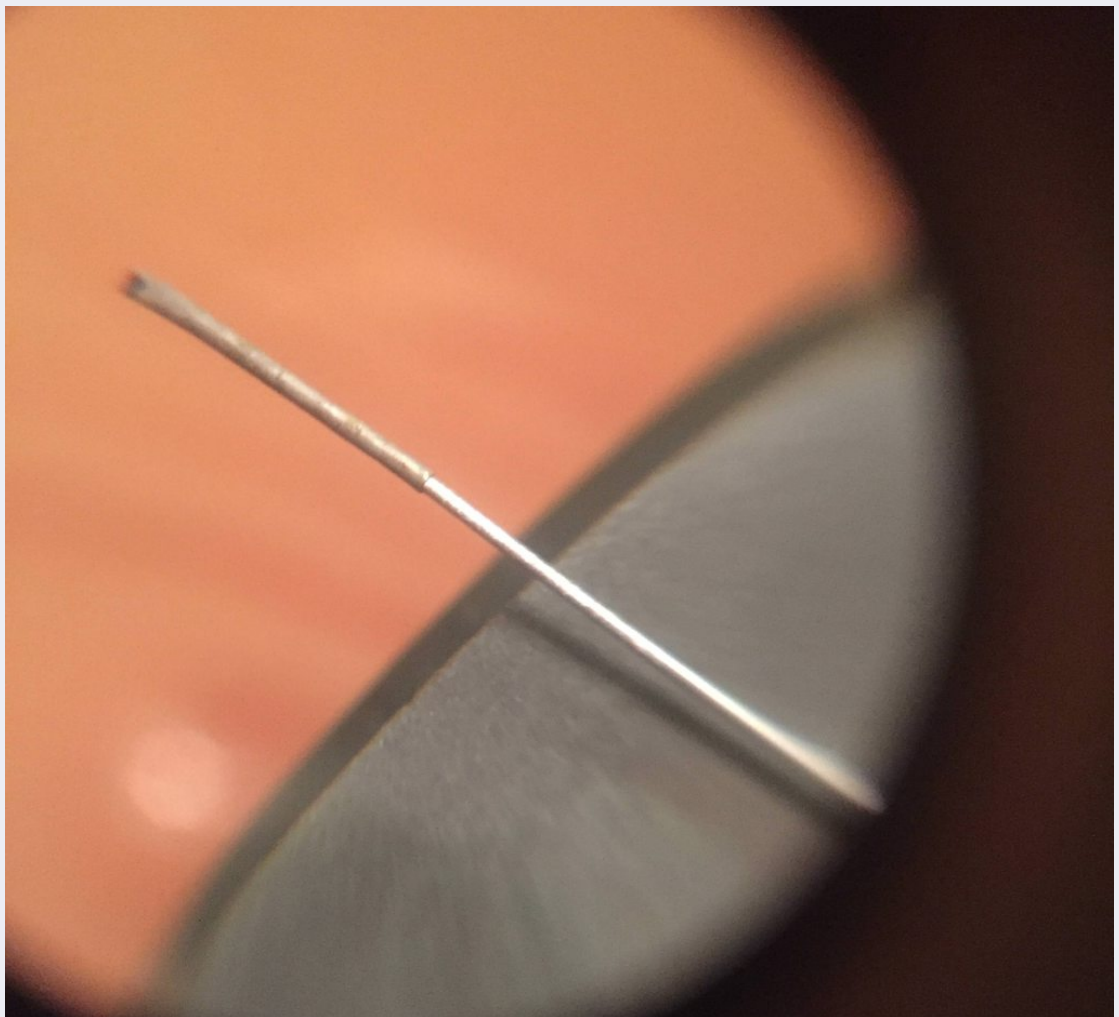
Joseph! For you a source for the aluminum tube

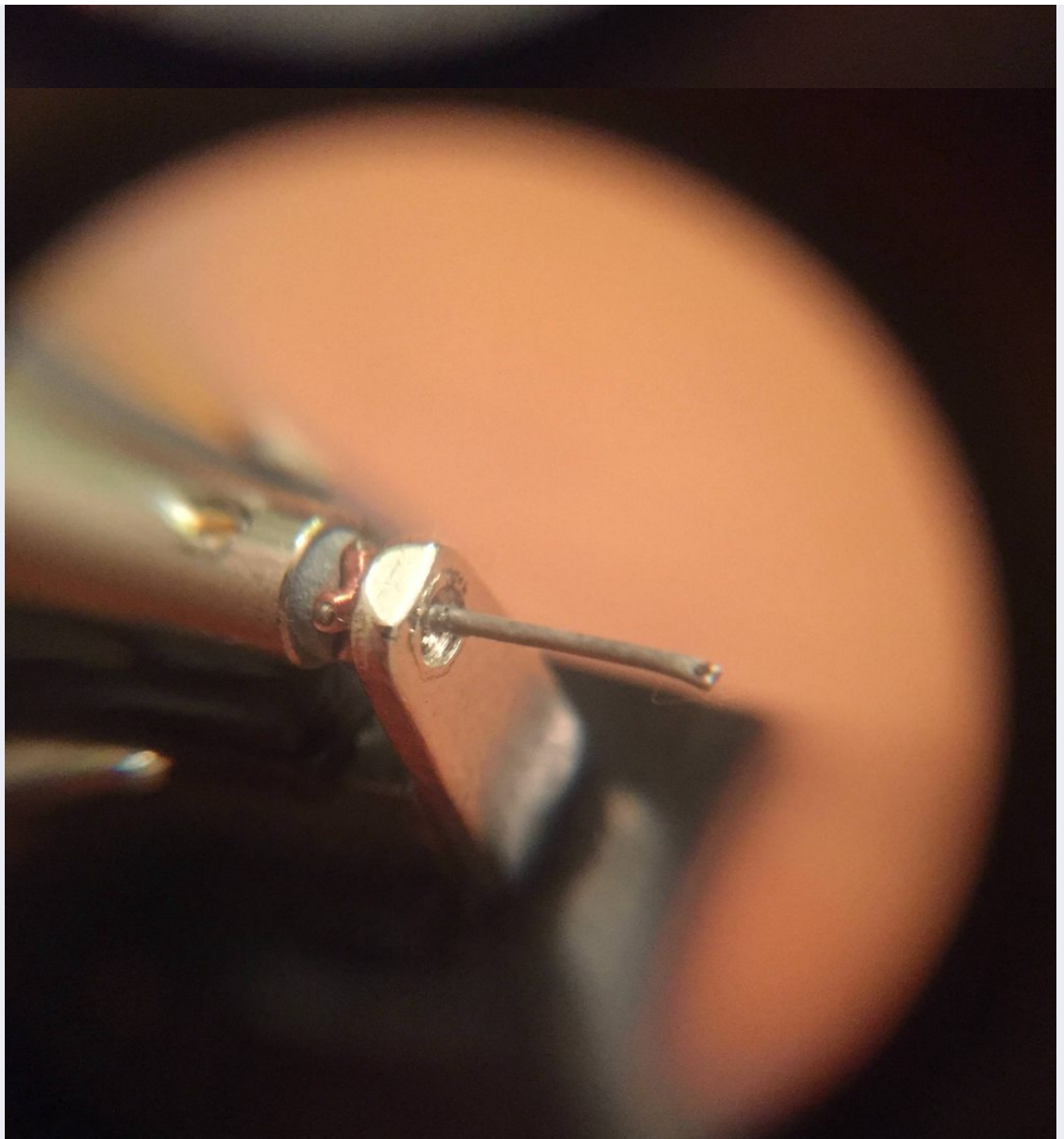
[http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-](http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g)

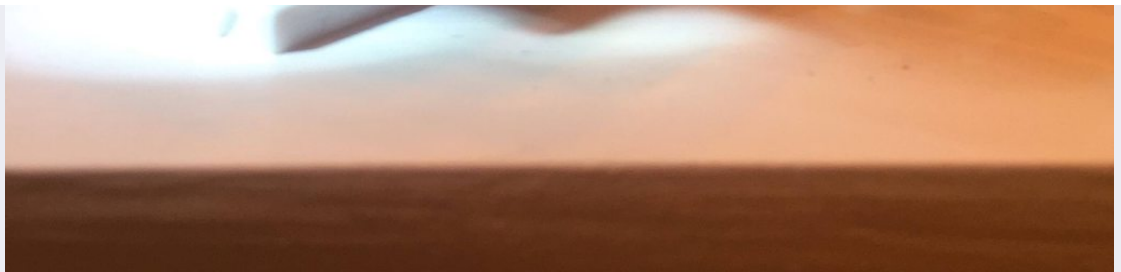


[of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g](http://www.ebay.co.uk/itm/Albion-Alloys-Aluminium-Micro-Tube-0-5-mm-OD-x-0-3-mm-ID-x-0-1mm-Wall-Pack-of-3-/371021766633?hash=item56629edfe9:g:~aUAAOSwDshZ1R6g)

I don't want to take this thread off track, but I wanted to give a big thank you again for pointing me to the way of this tubing. While I certainly have neither the skills, materials, nor time to build a cartridge such as the Neumann DST copy from scratch, I bought a bunch of varieties of the tubing and a couple weeks ago. I found that a 2mm length of the 0.4mm size was the absolute perfect size to use as an internal bridge to attach a JVC Shibata cantilever from a moving magnet stylus to the broken stub cantilever of a Sumiko Blue Point EVO III after a little bit of honing, that is. The fit was so snug and perfect that the joint played without issue without me having to use any cement. This helped immensely with tuning and final fitting before finally setting it with cement. The retipped upgraded cartridge sounds fantastic and tracks within original specification figures. I never heard it with the stock tip, so I can't compare, but it's got to be close in sound to the Black Bird.








Thank you again!

« Last Edit: November 30, 2017, 09:08:27 PM by needlestein »

 Logged

Joseph

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #97 on: December 02, 2017, 08:02:11 AM »

Joseph thanks! Excellent work! Fine photos.

« Last Edit: December 02, 2017, 04:16:10 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

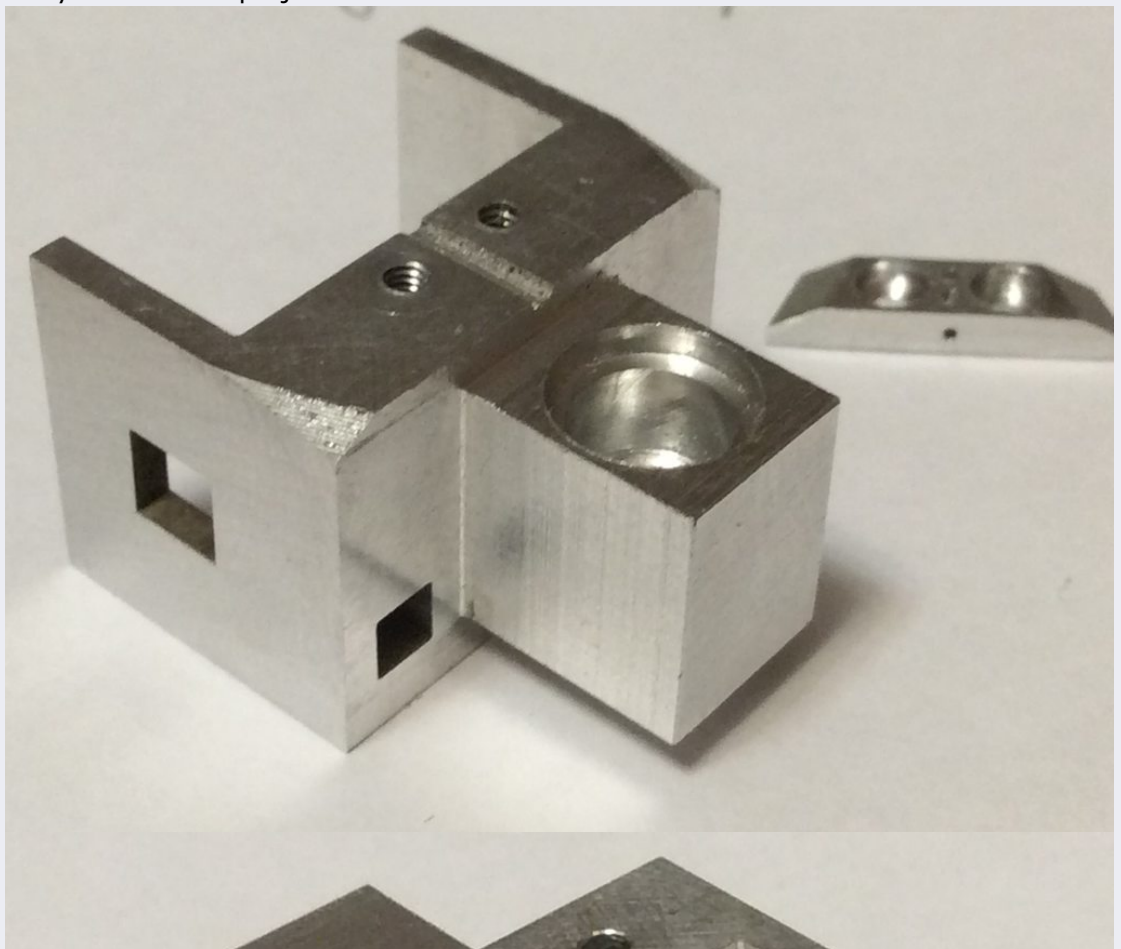
Posts: 195

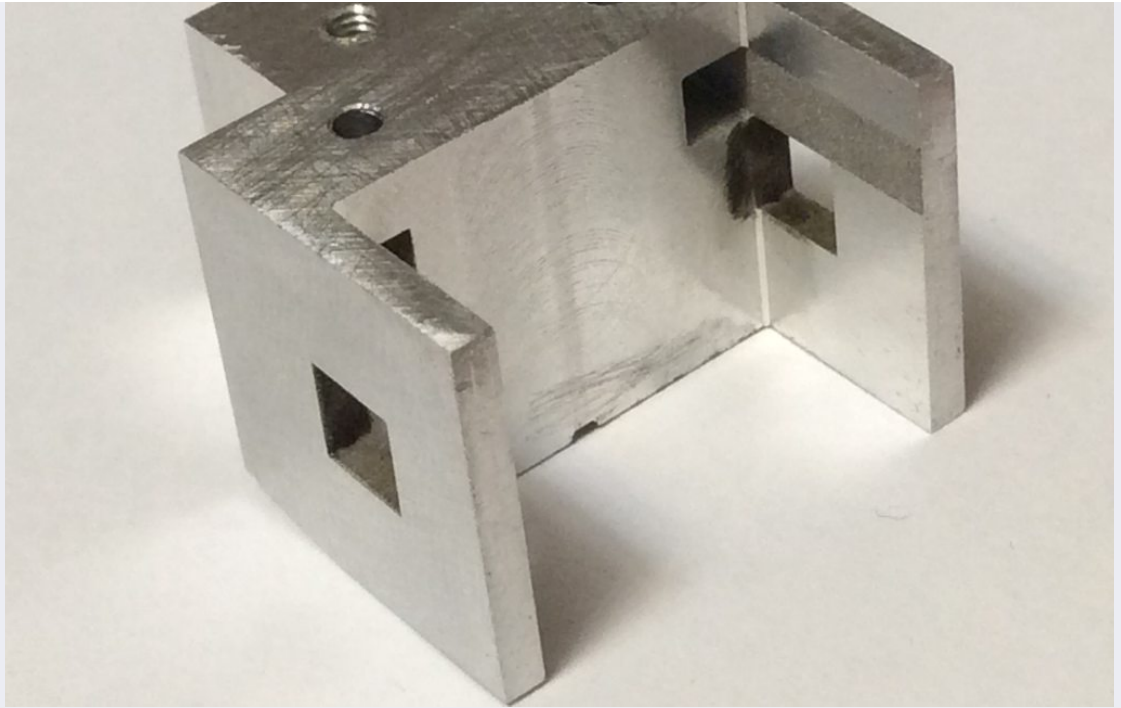


Re: Neumann DST copy???

« Reply #98 on: December 23, 2017, 04:52:04 PM »

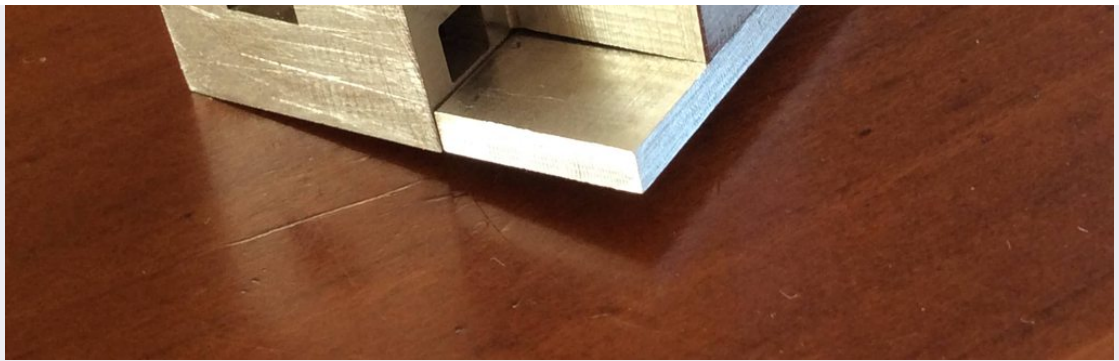
Body for the new project.





Square openings for reduction of weight





« Last Edit: August 05, 2018, 08:08:34 AM by Vintagepsych »

Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #99 on: December 26, 2017, 05:59:34 PM »

It is an amazing job.

Logged

Alexander.

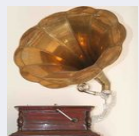
wer

Member



☐ Offline

Location: Catalunya
Posts: 9,120



Re: Neumann DST copy???

« Reply #100 on: December 26, 2017, 08:56:22 PM »

Neo-Cubism?

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #101 on: December 26, 2017, 10:48:34 PM »

Quote from: wer on December 26, 2017, 08:56:22 PM

Neo-Cubism?

i would rather call it Constructivism with tracers of Brutalism 🤔

Logged

Andrey

anderss

Member



☐ Offline



Re: Neumann DST copy???

« Reply #102 on: January 02, 2018, 10:36:18 PM »


I've followed the thread from the beginning when I like the Neumann products because

Age: 62
Location: Southern
part of Sweden -
Skåne
Posts: 324

they're amazing, I'd love to build my own clone of this cartridge but my big problem is that I do not have anyone to copy or any measure to use. My question is someone who wants to share these dimensions so that I can build my own cartridge.

Best regard

Anders

 Logged

Anders

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound

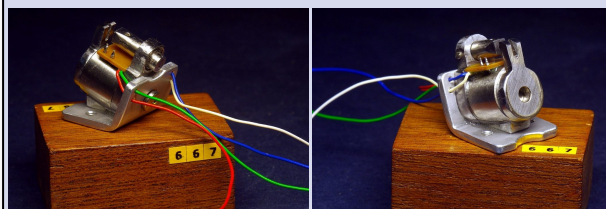


Re: Neumann DST copy???


« Reply #103 on: January 28, 2018, 02:41:40 AM »

Quote from: Delta667 on January 28, 2018, 02:40:05 AM

Yuriy, where did you go? Are you okay ?
We are all waiting for the continuation of your fabulous work.



I continue to work on my "Big Alnico"
It remains very little - run the generator))

 Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195




Re: Neumann DST copy???

« Reply #104 on: January 28, 2018, 06:55:34 PM »

Thank you Dima! All OK. I have a small vacation.

« Last Edit: January 30, 2018, 09:12:50 PM by
Vintagepsych »

 Logged

Yuriy

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Author

Topic: Neumann DST copy??? (Read 39309 times)

Delta667

Member



☐ Offline

Location: Vladivostok

Posts: 74

sculptor of sound

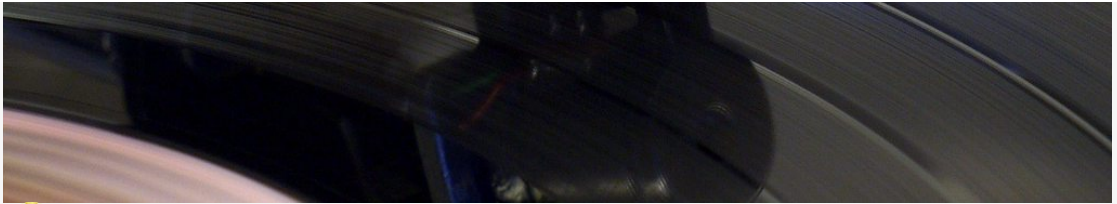


Re: Neumann DST copy???

« **Reply #105 on:** February 04, 2018, 01:20:11 PM »

Yura, the cartridge assembled, the result is positive - very satisfied))





Logged

best regards
Dmitry

ropie

Administrator
Member



☐ Offline

Posts: 12,222



Logged



Re: Neumann DST copy???

« **Reply #106 on:** February 04, 2018, 01:30:37 PM »

Amazing work! 😊

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

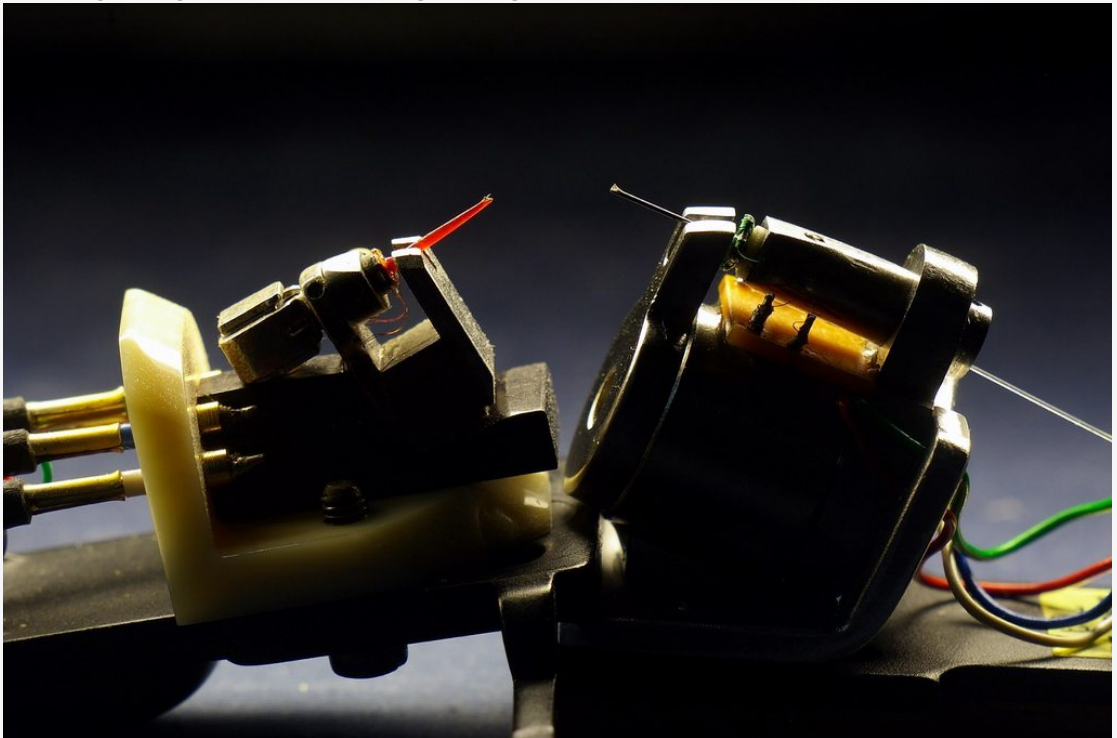
« **Reply #107 on:** February 04, 2018, 02:15:38 PM »

Quote from: ropie on February 04, 2018, 01:30:37 PM

Amazing work! 😊

Thank you)

Cartridge height is 24 mm. Weight 20 grams.



Logged

best regards
Dmitry

Alexandro

Member

☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426

**Re: Neumann DST copy???**

« Reply #108 on: February 04, 2018, 04:27:05 PM »

Respect on what you are doing.
Fascinating!

Logged

Alexander.

Delta667

Member

☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound

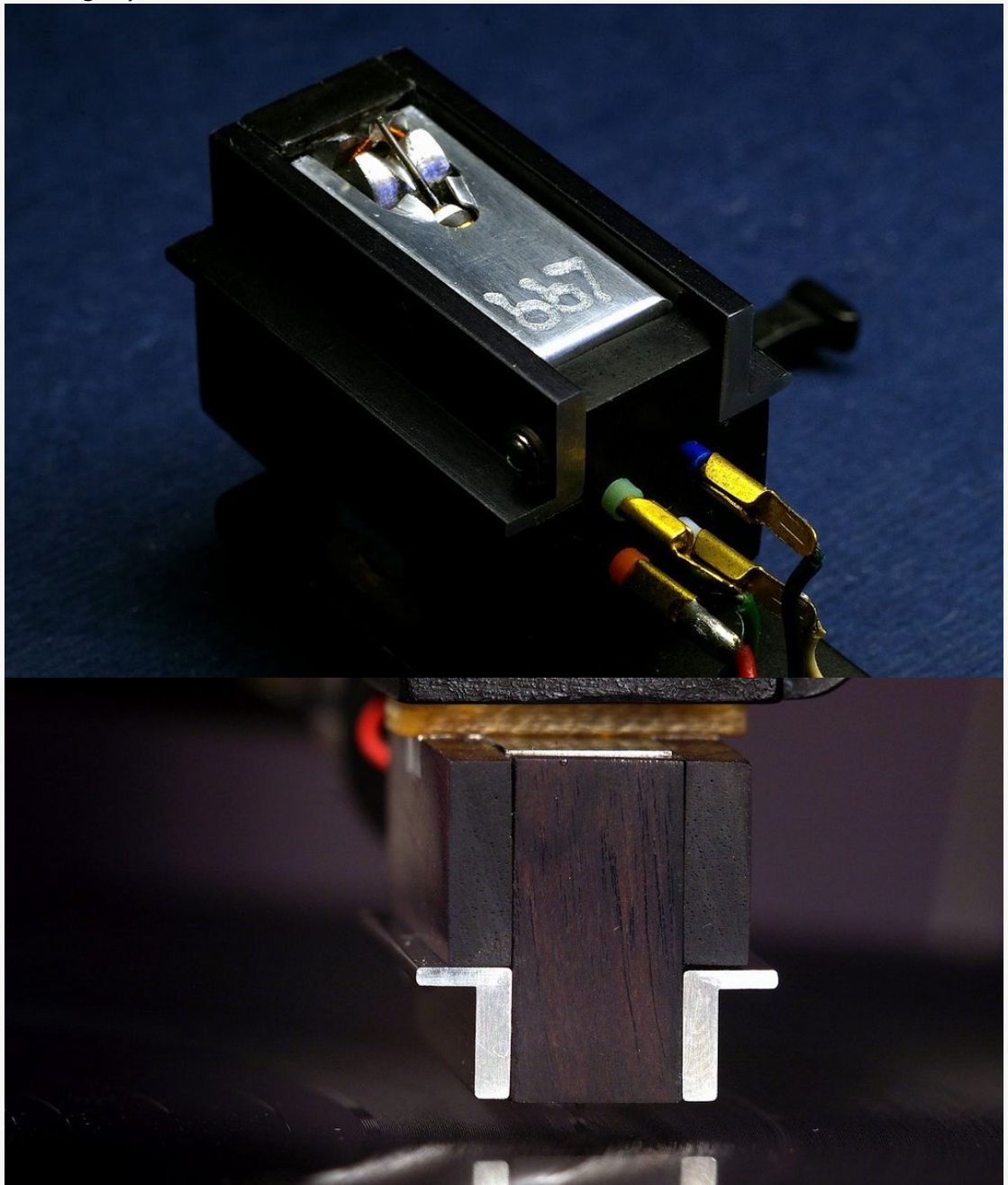
**Re: Neumann DST copy???**

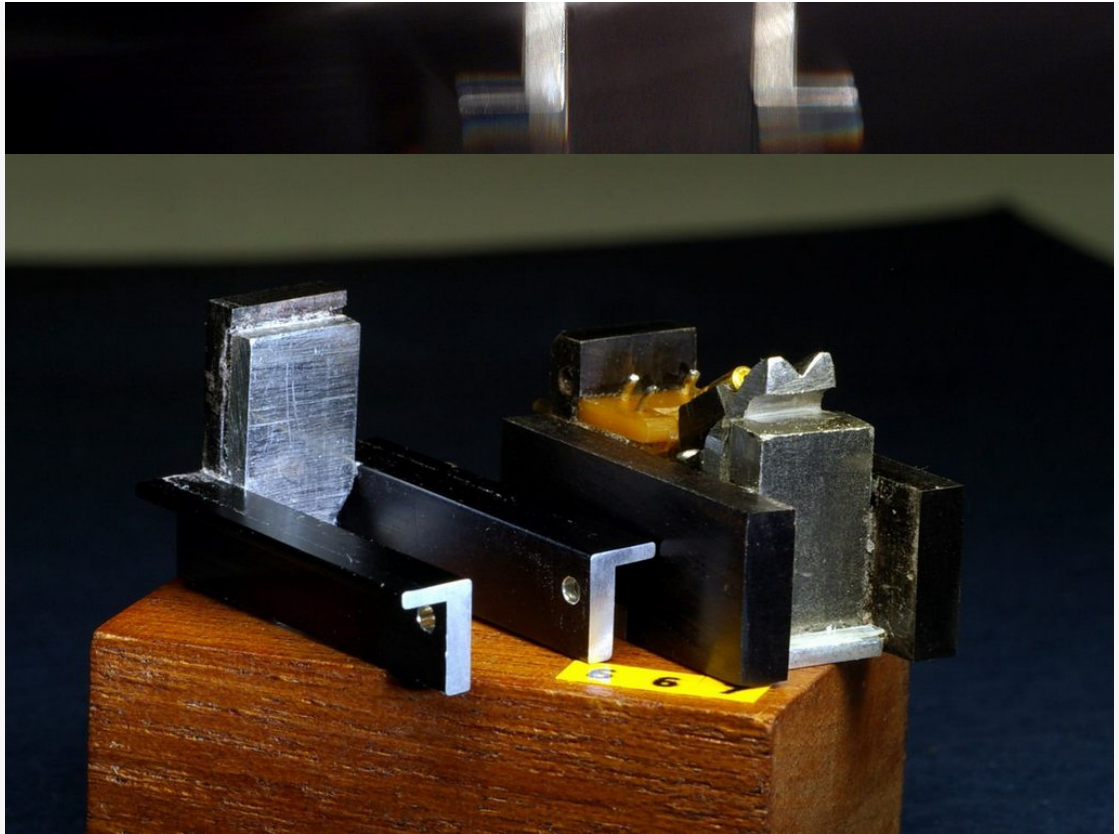
« Reply #109 on: February 05, 2018, 03:24:47 AM »

I'm sure Yura will not take offense at me, for the fact that I will use his platform "Neumann"))

Anyway, the topic is devoted to self-made-exclusive cartridges.

My cartridge platform was conceived as a stand, not devoid of an aesthetic beginning, for testing different types of coils. In the end, it began to be used as an ordinary cartridge)





But some ideas remained and are waiting for their implementation.

Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #110 on: February 05, 2018, 11:08:12 AM »

thanks Dima. I'm very happy with your publications. everything is very cool! Very original and interesting idea with a stand. allows you to quickly replace the moving system.

Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



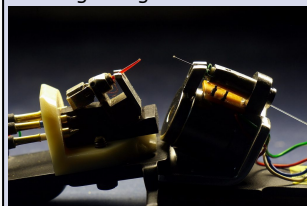
Re: Neumann DST copy???

« Reply #111 on: February 05, 2018, 11:25:20 AM »

Quote from: Delta667 on February 04, 2018, 02:15:38 PM

Thank you)

Cartridge height is 24 mm. Weight 20 grams.




Dear Dima, on a close look I can see there is a tension string out of the system. Could you please let me know is it really a string or something else?

Dear Yura, when I was looking the video with your electromagnetic cartridge in action I

did notice that there is a small wire (besides the signal wires) going out of the tonearm. Having in mind the nature of the electromagnetic system, my understanding is that you are feeding externally the electromagnets with a power supply. How do you achieve this and what is the current you are supplying the coils with (in case my observations are correct in the first place of course).

Thank you for the information.
Best regards.
Alexander.

 Logged

Alexander.

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

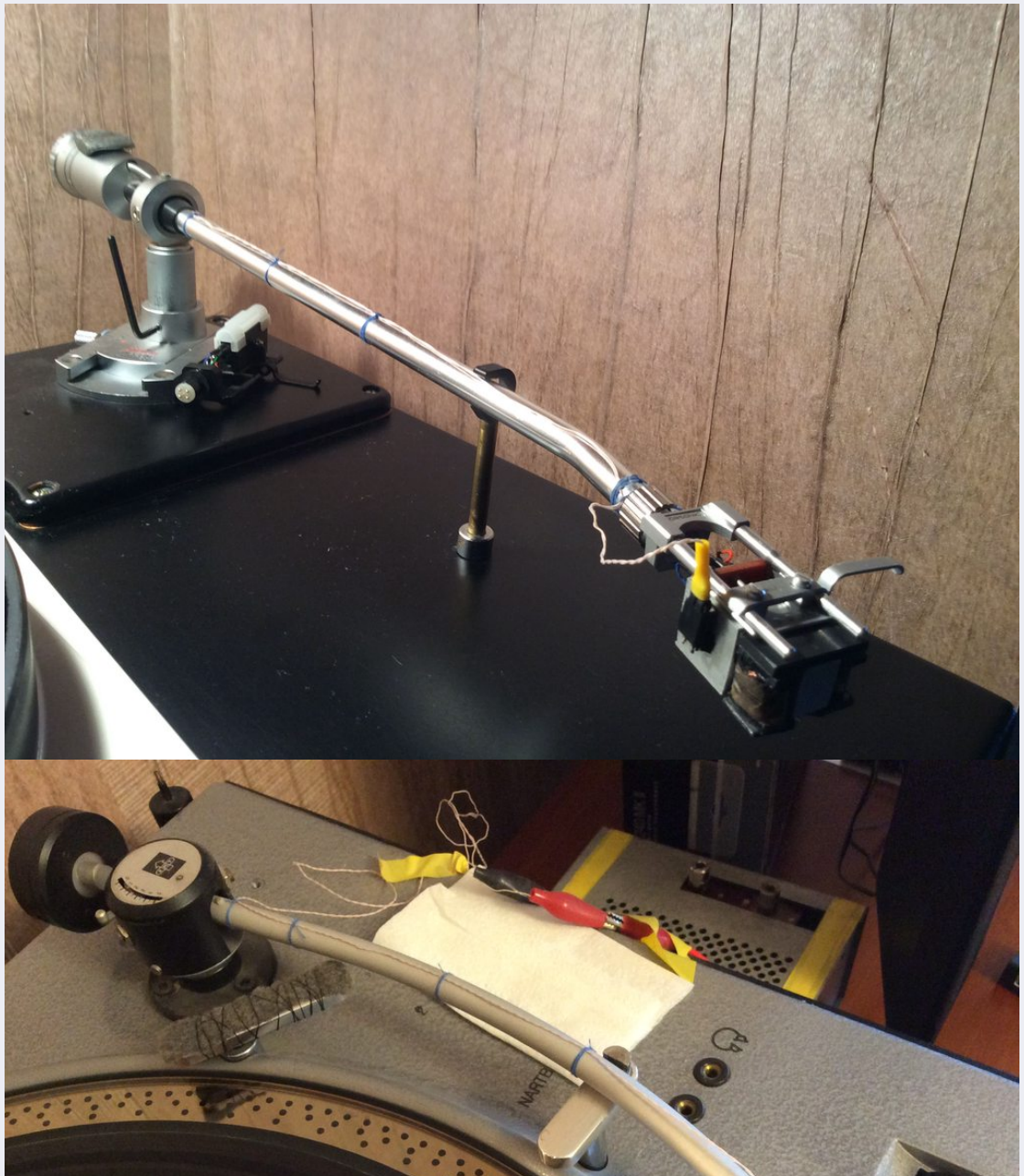
Posts: 195



Re: Neumann DST copy???

« Reply #112 on: February 05, 2018, 02:05:05 PM »

Hello Alexander! Thank you for asking. Yes, I have a wire and a connector on my tonearm to supply voltage to the coils of electromagnets. I use an ordinary laboratory power supply. You can connect a battery of 9 or 12 volts, you can consistently connect two batteries of 9 volts.





« Last Edit: February 05, 2018, 02:11:15 PM by Vintagepsych »

 Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #113 on: February 05, 2018, 02:42:00 PM »

Alexandro, this is really a string of suspension. While the cartridge is under testing and adjustment, I do not trim it.
When all cartridge parts find their place and will be permanently fixed, the string will be cut off.
You are very attentive))

 Logged

best regards
Dmitry

Delta667

Member



☐ Offline



Re: Neumann DST copy???

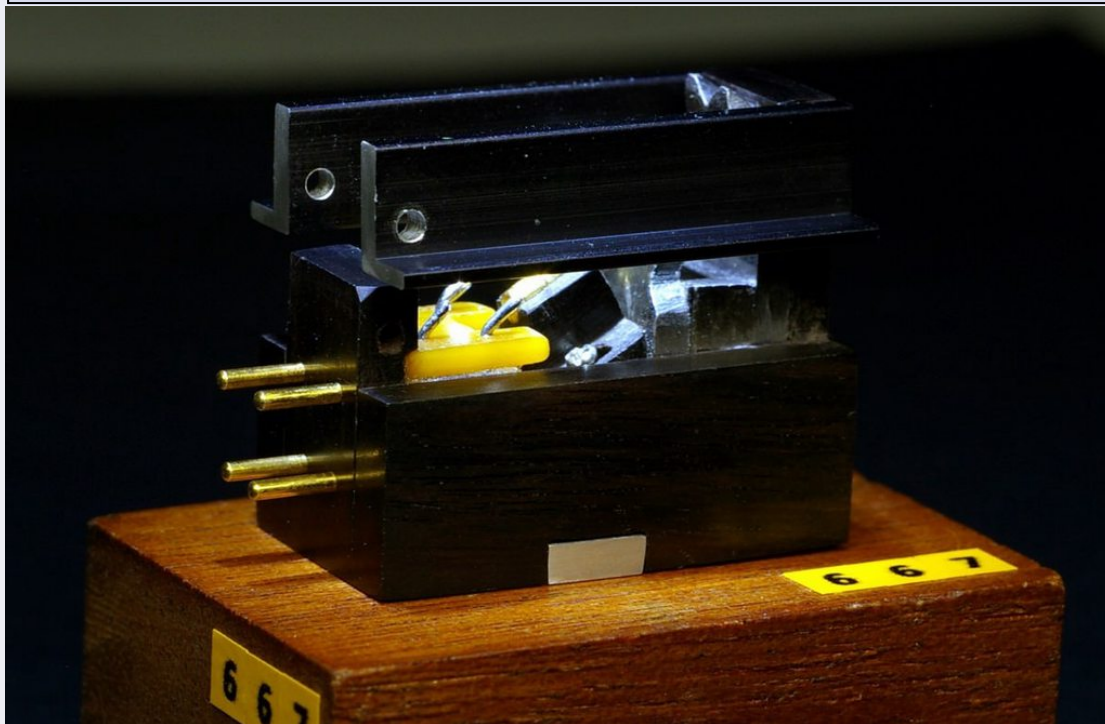
« Reply #114 on: February 05, 2018, 02:50:06 PM »

Quote from: Vintagepsych on February 05, 2018, 11:08:12 AM

Location: Vladivostok
Posts: 74

sculptor of sound

thanks Dima. I'm very happy with your publications. everything is very cool! Very original and interesting idea with a stand. allows you to quickly replace the moving system.



Replacement is not as fast as I would like))
Soldering of contacts is necessary.

Logged

best regards
Dmitry

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #115 on: February 05, 2018, 03:13:01 PM »

Thank you Dima and Yura for your explanations.
It is really very valuable information you are sharing here with all of us.

Logged

Alexander.

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #116 on: May 22, 2018, 01:04:50 PM »

Hi to all. I'm new in Lenco Heaven, however not new to vinyl. I do have some experience in restoring different cartridges (about 100 of them), as well as I have built some myself. As to Neumann DST, I can not figure out, how cantiliver is attached? I see a hole, and some screws, so does it have any kind of rubber damper inside of the hole? As to Permalloy source, I may point onto reel-to-reel recorders heads (together with shields they are made of permalloy), as well as electric motor rotors and stators.

Regards,
Walter

« Last Edit: May 22, 2018, 03:02:48 PM by walterwalter »

Logged

walterwalter

Member



Re: Neumann DST copy???

« Reply #117 on: May 23, 2018, 06:55:14 PM »

☐ Offline

Posts: 32

Thank you, so it is of a very low compliance. I can not find any technical data on DST in the net, even on Vinyl Engine. What are technical data, like tracking force, compliance, channel separation, ETC. Maybe, some technical manual?

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #118 on: May 24, 2018, 05:53:49 AM »

Force of 3 - 4 grams. I didn't measure other data, sorry. A sound one in one as original Neumann. Incredibly powerful bass!!! Silvery high!



The

sound is very similar to sounding of a master tape!

« Last Edit: May 20, 2023, 03:29:57 PM by
Vintagepsych »

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

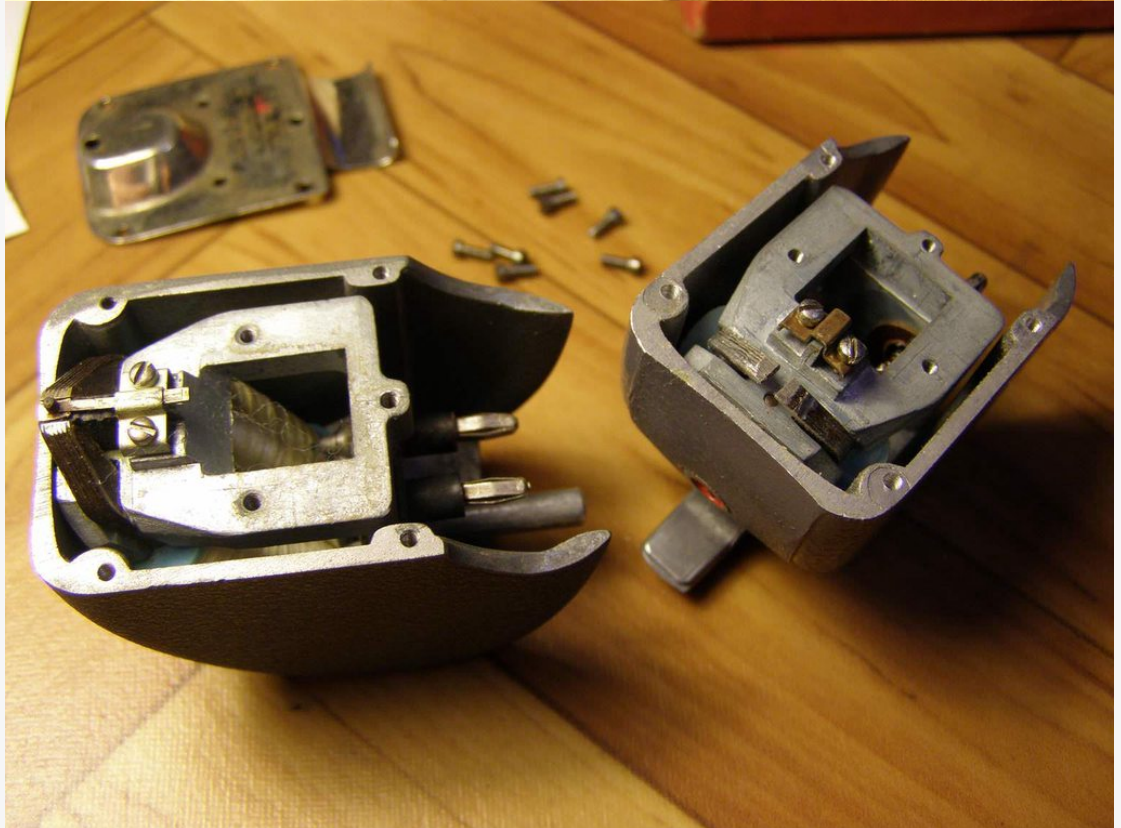
« Reply #119 on: May 24, 2018, 05:35:17 PM »

Wow! Lots of treasures. I've never encountered DST, but I may assume the sound should be special. I've restored few Ortofon SPU, and ancient monstrous Paraflux studio cartridges together with proprietary arm, and was very impressed with final sound. With proper mono records it is kind of time machine, brings you to very alive sound of that time. Presence is astonishing. By the way, Paraflux very similar to DST by its configuration, despite it is VMS mono.

Maybe, I will try DIY DST...







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Author

Topic: Neumann DST copy???

(Read 39310 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« **Reply #120 on:** May 24, 2018, 07:29:05 PM »

Cool! I such didn't see. For 78rpm? I represent as they sound!!!

« *Last Edit: May 26, 2018, 10:04:40 AM by Vintagepsych* »

Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« **Reply #121 on:** May 24, 2018, 07:52:55 PM »

Yes, they were intended for 78RPM, however a client wanted it for 33. So, i replaced styluses with smaller ones. Another problem was, they both were for rare vertically modulated records, so I changed suspension for horizontal movements, and for higher compliance, so tracking force went from 16 to 8 grams. Surprisingly, sound was full range, with no lack of highs and lows.

Funny, configuration of magnet and yoke is similar to DST. Just replace moving iron to DST-like moving coils, and you'll get begemoth stereo MC 🤪🤪

Logged

stickmaker

Member



☐ Offline

Age: 58

Location: Liebenthal

Posts: 273



Re: Neumann DST copy???

« **Reply #122 on:** May 25, 2018, 07:19:39 PM »

Hi Yuriy,

how about the term 'replica' for this very nice work?

Anyway, I would like to point on a very classic cartridge, widely unknown.

The Westrex 10A.

This very early stereo cartridge was derived from the Westrex Cutterhead used for cutting the first stereo records.

No need to cut them, without having some gear for palyback as well....

The Westrex was developed at the same time, but legally (in terms of the stamp of

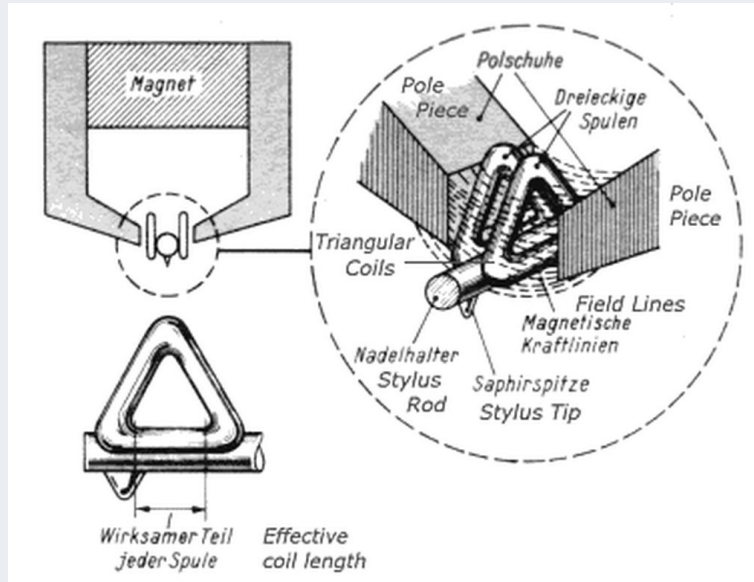


patent office) the Westrex was a little bit ahead.
Westrex 1957 in the US, Neumann 1958 in Germany.

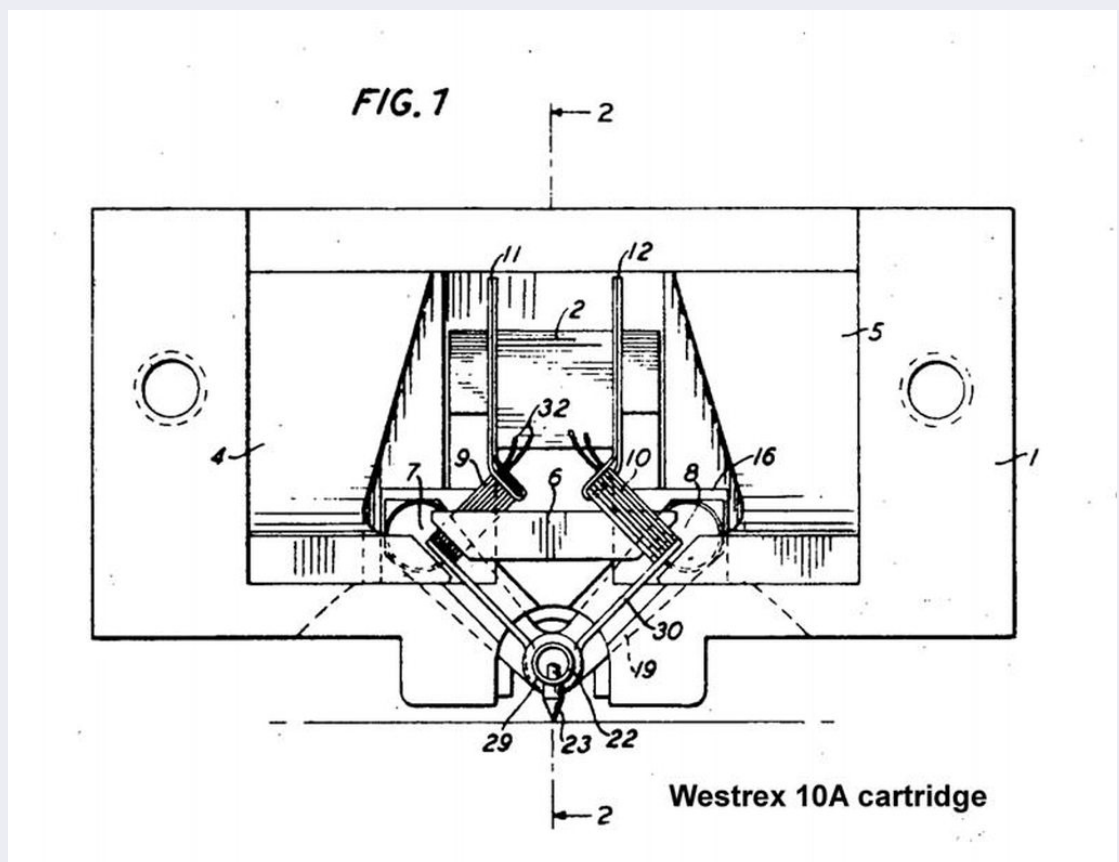
The construction of the Westrex is a bit simpler with round coils inside the cartridge body, avoiding the need for triangular coils.

The DST coils need super precise adjustment to work properly.

Only the straight part is used to generate a signal. If the whole thing is offset 'everything' generates a signal, but not a proper stereo signals anymore.



This is the Westrex cartridge




The coils are round and inside, almost like a 'regular' cartridge.
the cantilver is also flat, parallel to the record surface.

The coil assembly like a V twin engine 🤔

This might be an interesting future project?

I heard recordings made by Japanese author Atarashi with this cartridge.
Due to ease of use, it were 'only' high res digital files, but anyway the character came across.
Very lucid midrange, beautiful.

Best
Thomas

 Logged

you need two for stereo

Vintagepsych

Member



☐ Offline


Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #123 on: May 28, 2018, 06:30:37 AM »

Thomas thanks! The idea, maybe, is good, but for her realization, at least it is necessary to have such cartridge.

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???


« Reply #124 on: May 31, 2018, 07:17:20 PM »

Thomas. Westrex is very interesting. May you put some more drawings and explanations? How magnets are located, with their poles? I'm currently in a process of creating MC cartridge with similar ideas.

As to Neumann triangular coils, I may assume they tried to avoid patent infringement of Ortofon SPU mono. As a result, only horizontal parts generate signal, and a cartridge is of very low output.

Yury, you did amazing job. Завидую белой завистью.

Walter

 Logged

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #125 on: May 31, 2018, 09:40:10 PM »

Thanks Walter. I will be happy if you show us your works. As for Ortofon and Neumann. These are absolutely different, and even the opposite ideas. At Ortofon one magnet, at Neumann - two. At Ortofon magnetic field is directed along a cantilever, at Neumann - across a cantilever. At Ortofon sound coils settle down on the square core, Neumann

have no core. Well and most important difference: on similarity of Ortofon 99% of all modern cartridges, Neumann one and only are made!

« Last Edit: December 31, 2018, 03:10:29 PM by Vintagepsych »

 Logged

Yuriy

pde2000

Member



☐ Offline

Age: 55

Location: upminster

Posts: 2,715



GB



Re: Neumann DST copy???

« Reply #126 on: May 31, 2018, 10:12:34 PM »

Allnic is the nearest thing to a modern westrex;

<http://www.allnicaudiousa.com/feature/phono-cartridges/>

With miniature electret microphone capsules available it should be possible to connect a stylus to a pair at 45/45 using some form of yoke.

 Logged

Paul in the ning nang nong, where the cows go bong, and the teapots jibber jabber joo.

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #127 on: June 01, 2018, 09:43:46 AM »

Quote from: Vintagepsych on May 31, 2018, 09:40:10 PM

Thanks Walter. I will be happy if you show us your works. As for Ortofon and Neumann. These are absolutely different, and even the opposite ideas. At Ortofon one magnet, at Neumann - two. At Ortofon magnetic field is directed along a canteliver, at Neumann - across a canteliver. At Ortofon sound coils settle down on the square core, Neumann have no core. Well and most important difference: on similarity of Ortofon 99% of all modern cartridges, Neumann one and only are made!

Yuriy, That's right, however I've meant Ortofon Mono coil shape. I assume, if triangular coils would be substituted with a pair of ortofon shaped coils (as in photo 1) in Neumann design, it should increase output, because back turns of coils will participate in signal induction. The only trick is to properly locate them in the curved magnetic field, where lines go 45gr/ to vertical.

Excuse me for being crazy about improving things. 🤖

As for my works, for now I've only completed mono version of MC Frankenstein between Neumann and Fairchild. It tracks at 2,5-3 gram, and sound is impressive at



least. (photo 2)



Logged

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #128 on: June 02, 2018, 04:24:22 PM »

Yuriy, as to your electromagnetic version. What is output signal level, comparing to permanent magnet DST, and to regular LOMC, let's say Denon DL-103? Is it possible to achieve hi output without sacrificing the sound?

Logged

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #129 on: June 10, 2018, 10:13:55 PM »

NEUMANN

● *DST-62 Stereo Cartridge.* This is the latest model and development of the already well-known DST unit. Improvements include elimination of rubber membrane complete enclosure of cartridge bottom. Torsion bar re-enforced making mis-alignment impossible even with long time lapse.

Specifications: Type *dynamic*; freq. resp. 30 to 15 k cps; $\pm .2$ db; output, .1 mv/cm rec. velocity; channel separation, 25 db at 1 kc, 25 db at 10 kc; recommended load, 50 (min) ohms; recommended tracking force—professional arms, 6 gms, effective stylus mass, 1 mg; compliance—lateral, 3.6×10^{-6} cm/dyne, vertical, 3.6×10^{-6} cm/dyne; d.c. resistance, 18 ohms; no. of terminals, 5; mounting dimensions, *special*; weight, 30 gms. Price, diamond, \$29.50; replacement stylus, \$20.00. Cartridges

Technical data for consideration.

\$12.50, replacement stylus, \$20.00. Gotham Audio Corp., 2 West 46th St., New York 36, N. Y.

you can hear the difference

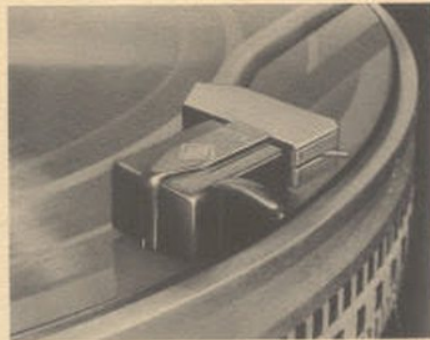
We refrain from giving some of the so-called "Technical Specifications" which are so frequently glibly uttered, and yet mean nothing because of the lack of standardization of terms for transducers.

We submit that the only purpose of a stereo cartridge and tone arm is to reproduce completely and faithfully everything the manufacturer has put into the record without excessively deteriorating it. Since engineering has not advanced to the stage of "perfection" (and may never do so), we claim – and can prove – that the NEUMANN Cartridge and Arm are "almost perfect".

The instruments described on these pages are designed and constructed – so far as the most advanced technology permits – solely to reproduce all the sound that is on the record – and not to add any of their own.

We urge you to listen to what the NEUMANN Cartridge and Tone Arm can do.

We guarantee that you will hear the difference.



The New NEUMANN **Double Dynamic STEREO CARTRIDGE DST-62**

Designed to be used with the NEUMANN-TELDEC Stereo Cutting System to check what the cutting head has put into the master disk before the master is approved for pressing operations. Improved metal underside replaces the rubber previously used – which tended to deteriorate in use. Unit is sealed against dust and dirt.



Stereo Cartridge DST-62 may be used with the following tone arms:

Gotham STA-12
SME

ESL 310/N
EMT Turntable Arm

Operates with all top quality preamp inputs. Step-up cable transformers Model KTR-147C available for still greater signal-to-noise ratio.

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #130 on: June 11, 2018, 06:23:36 AM »



Technische Daten:

Frequenzbereich	30 ... 15000 Hz
Frequenzabweichung	± 2 dB
Empfindlichkeit	0,15 mV/cm s ⁻¹
Übersprechdämpfung	> 25 dB
Quellwiderstand	~ 18 Ohm
Rückstellkraft	~ 3·10 ⁻² g/μ
Auflagegewicht	6,5 g
Radius der Abtastnadel	~ 15 μ
Gewicht	30 g
Hauptabmessungen	20 x 30 x 40 mm

Anwendungsbereich:

Der Stereo-Tonabnehmer ist mit zwei hochwertigen dynamischen Systemen ausgerüstet und dient zur Abtastung von Stereo-Schallplatten, deren beide Spuren nach dem 45°-Verfahren aufgezeichnet wurden. Die beiden Systeme können auch so zusammen geschaltet werden, daß der Tonabnehmer lediglich auf die bisher üblichen Seitenschriftschallplatten anspricht. Der Tiefen-schriftanteil und damit Verzerrungen durch den Klemmeffekt werden in diesem Fall elektrisch kompensiert.

Der mechanische Anschluß des Tonabnehmers DST ist zusammen mit seinen sonstigen Abmessungen so gestaltet, daß er an alle Studio-Abspieleinrichtungen angeschlossen werden kann, die für Einkanalbetrieb mit einem Ortofon- oder EMT-Tonabnehmer

GOTHMAN AUDIO SALES CO. INC.
2 West 46th Street, New York 36, N.Y.
Columbus 5-4111

TEMPORARY BULLETIN 3/10/59

SUBJECT: The NEUMANN Model DST Double-Dynamic Stereo Cartridge

This cartridge was designed by NEUMANN specifically for calibration purposes in the development of the world's first vectorial system of stereophonic disk recording, now known as the TELDEC Stereo Cutting System (45/45).

It was not intended that the DST Cartridge ever be sold on the open market, and only through this company's efforts has it been possible to bring a limited number of these units into the country. Present production stands at 40 units per month.

The mounting of these cartridges is such that they will only fit playback arms of the European standard such as ORTOFON, ESL, or the NEUMANN PA-2 playback turntable which is described elsewhere. When the cartridge is to be mounted in the ESL or ORTOFON arm, a special four-contact insert and insert holding clip must be ordered under the number "2-15". It is instantly installable by anyone.

The NEUMANN DST Double-Dynamic Stereo Cartridge is the only available unit with five contacts: two each for right and left output (balanced) and a locating key contact which carries the cartridge frame and magnet ground.

ELECTRICAL CHARACTERISTICS:

Frequency Response:	± 2 db from 30 - 15,000 cycles/second.
Channel separation:	> 25 db in the mid range; > 12 db full range.
Source impedance:	18 ohms
Input matching impedance:	> 50 ohms
Sensitivity:	0.15 mV/cm/sec.

MECHANICAL CHARACTERISTICS:

Compliance:	3.6 x 10 ⁻⁶ cm/dyne
Tracking force:	6.5 gram
Stylus radius:	0.6 mil
Stylus material:	Diamond (made in Switzerland)
Weight:	1.1 ozs.
Dimensions:	3/4" x 1 3/16" x 1 5/8"

APPLICATION:

Since the output of this cartridge is, of necessity, low; a fact which contributes to its response characteristics by lightening the moving assembly - it is recommended that an input transformer of highest quality be used where no low-impedance input is available. A turns ratio of 15:1 is sufficient to bring the level even above that usually found in other cartridges. We recommend the BEYER Type TR-145/15 unit with a primary connection for 50 ohms. This unit is available from your dealer at \$11.20 each (two required for stereo).

The NEUMANN DST Stereo Cartridge is highly recommended for both monophonic as well as stereo listening. Its monophonic characteristics do NOT constitute a compromise.

PRICE: \$ 69.00 consumer net.

2 (Phono Cartridges)

225B (2.5 mil).....\$37.50

Model SM-2 Stereo Cartridge

Moving-magnet type; .0007" diamond stylus; output 5 mv. @ 3.8 cm./sec.; dy-



namic mass 2.0 grams; tracking force 2.5 grams; compliance 5×10^{-6} cm./dyne; response 20-15,000 cps ± 2 db; separation 20 db ± 2 db from 20-15,000 cps.....\$37.50
Replacement stylus assembly.....\$15.00

Model F-7 Stereo Cartridge

Design technique similar to that of condenser microphone; has its own separate, self-powered transistorized preamp; response essentially flat from 20-20,000 cps; separation 25 db from 20-6000 cps, 15 db from 6000 to 20,000 cps; $\frac{1}{2}$ -2 gr. tracking pressure; cartridge imp. 50 ohms; preamp output 10 mv. (1 kc.-5 cm./sec.) with 8000 ohm load impedance; cartridge output .5 mv.; compliance 23×10^{-6} cm./sec.; has .5-mil diamond stylus.....\$85.00

GENERAL ELECTRIC

Model VR-225 Stereo Cartridge

Magnetic variable reluctance design; response 20-20,000 cps ± 3 db; output



5 mv. @ 3.8 cm./sec.; separation up to 25 db nominal; channel balance within 1 db 1000 cps; load impedance 47,000 ohms optimum; lateral compliance 4×10^{-6} cm./dyne; vertical compliance 3×10^{-6} cm./dyne; tracking force 2-4 grams; .5-mil replaceable diamond stylus.....\$17.95

Model VR-227 Stereo Cartridge

Same as VR-225 except response 20-17,000 cps; lateral compliance 2.5×10^{-6} cm./dyne; vertical compliance 2×10^{-6} cm./dyne; tracking force 5-7 grams; .7-mil replaceable diamond stylus.....\$16.95

Model VR1000-5 "Orthonetic" Stereo Cartridge

For use with professional-type turntables and arms and record changers that will track below 4 grams; response 20-20,000 cps ± 3 db; tracking force 1-3 grams; vertical compliance 9×10^{-6} cm./dyne; lateral compliance 6×10^{-6} cm./dyne; 47,000 ohm load impedance; output 1 mv./cm./sec.; separation 25 db at 1000



cps; channel balance within 2 db at 1000 cps; .5-mil replaceable diamond stylus.....\$29.95

Model VR1000-7 "Orthonetic" Stereo Cartridge

Similar to VR1000-5 except for use with any changer that will track from 3-7 grams; lateral compliance 4.5×10^{-6} cm./dyne; vertical compliance 4×10^{-6} cm./dyne; separation 20 db; has .7-mil replaceable diamond stylus.....\$24.95

Series VR-II Monophonic Cartridge

Variable reluctance magnetic design; single- and triple-play turnaround models; re-



sponse 20-20,000 cps; output voltage 10 mv. at 5.5 cm./sec.; lateral compliance 1.7×10^{-6} cm./dyne; vertical compliance 5×10^{-6} cm./dyne; load impedance 100,000 ohms with 300 μ f. shunt capacity; 47,000 ohms with 400 μ f.; 6200 ohms with 1000 μ f.; tracking force 4 grams with 1-mil stylus and quality tonearm; 6 grams with 3-mil stylus and quality tonearm; 6-8 grams for dual 1- & 3-mil styli used with record changer; replaceable stylus.
Model 4G-050 (1 and 3 mil sapphire styli).....\$12.95
Model 4G-052 (1-mil diamond; 3-mil sapphire styli).....\$16.95
Model 4G-053 (1-mil and 3-mil diamond styli).....\$19.95
Model 4G-040 (3-mil sapphire).....\$9.95
Model 4G-041 (1-mil sapphire stylus).....\$9.95
Model 4G-061 (1-mil diamond stylus).....\$13.95
Model 4G-063 (3-mil diamond stylus).....\$13.95

GRADO

"Classic" Cartridge

Similar in design to "Laboratory Series" except not custom assembled; response 15-28,000 cps ± 1 db; channel separation 25 db.....\$37.50

"Laboratory Series" Stereo Cartridge



Moving-coil design; response 10-30,000 cps ± 1 db; output 9 mv. per channel @ 10 cmv.; input load any value above 5000

ohms; tracking force 3 grams; channel separation 30 db; diamond stylus; all parts specially selected.....\$49.50

"Senator" Cartridge

Similar to "Laboratory Series" and "Classic" with bass frequencies somewhat fuller, mid-range somewhat softer, and more brilliant high end; response 18-24,000 cps ± 1.5 db.....\$24.95

"XR" Stereo Cartridge (Mk-1)

Moving-coil design; response 7 to 50,000 cps; output 4 mv. @ 10 cmv.; impedance 600 ohms/ch.; input load—any value over 2000 ohms; tracking force .2 to 2 grs.; compliance 25×10^{-6} ; separation 20 db; diamond stylus.....\$75.00

NEUMANN

Model DST-62 Stereo Cartridge

Professional model originally designed for recording studios; has hand polished Swiss



diamond stylus; to be used with PA2a turntable, STA-12 pickup arm, made in West Berlin.....\$79.50

ORTOFON

Model SPU/GT Stereo Cartridge

Response 20,20,000 cps; channel separation 20-25 db; load impedance 50,000



ohms; output at 1 kc. 7 mv. per channel; compliance 10×10^{-6} cm./dyne; stylus pressure 1 to 2 grams; 4-pin terminal; cartridge is supplied mounted and enclosed within plug-in head; will fit any Ortofon tonearm.....\$49.95
With elliptical stylus.....\$75.00

Model SPU/T Stereo Cartridge

Identical to Model SPU/GT but without plug-in head; can be mounted in almost any make of tonearm.....\$49.95
With elliptical stylus.....\$75.00

PICKERING

Model U38 Series Stereo Cartridge



Designed especially for use with automatic turntables; response 20-20,000 cps; output

STEREO/HI-FI DIRECTORY

www.vinylengine.com

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« **Reply #131** on: June 11, 2018, 08:38:16 PM »

One more question. Do all versions of DST have that round damper with a vertical bar?

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

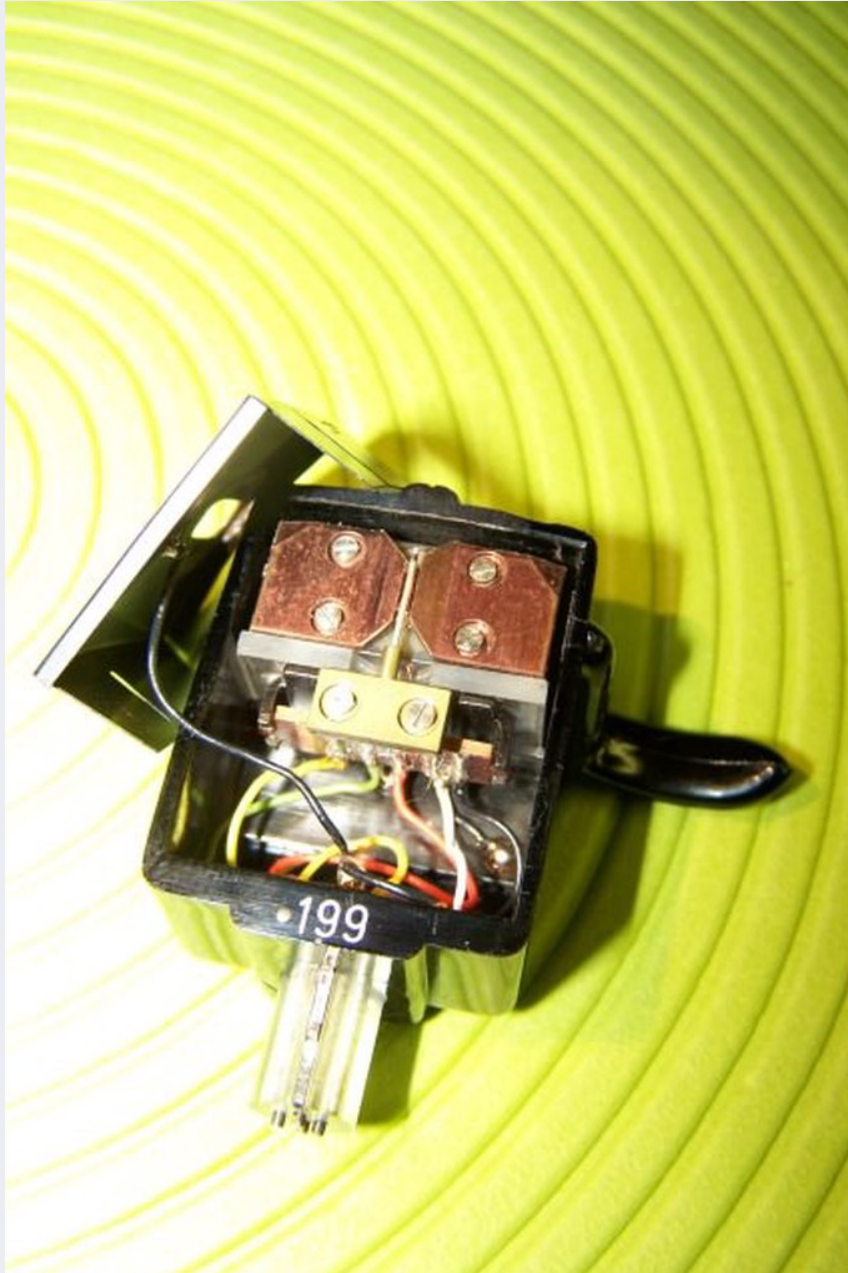
Posts: 195

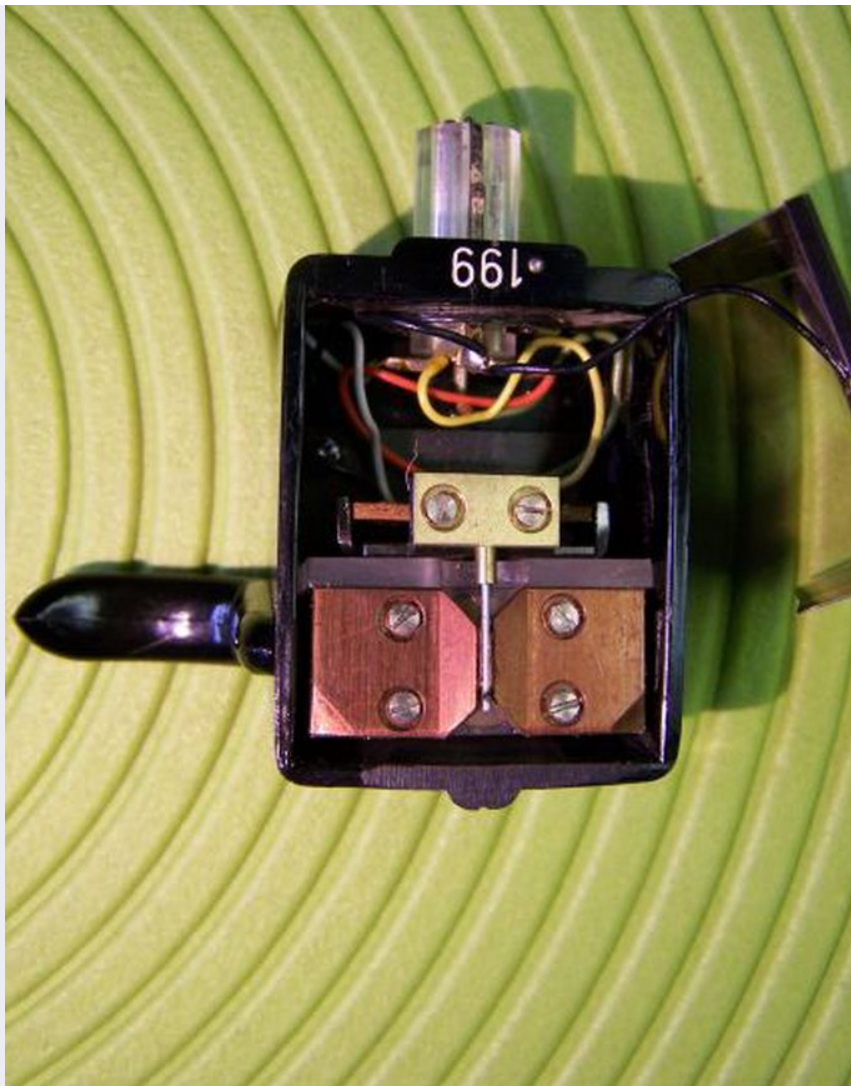


Re: Neumann DST copy???

« **Reply #132** on: June 12, 2018, 04:58:01 AM »

DST 62. The main idea (reason) of development of a new head - protection of a needle, coils and a cantilever. For this purpose the metal screen is added to a design.







« Last Edit: December 31, 2018, 03:11:20 PM by Vintagepsych »

Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #133 on: June 13, 2018, 09:12:35 AM »

I wonder, if applying a very strong magnet to air coil design is able to bring some distortion and bright coloration of sound? In average design distortions are due to core saturation and hysteresis, and core-less design should be immune of both.

As I may assume by the photo of Sinitsin's Tzar-2, he used modern magnets, possibly neodymium?

As to late Neumann DST-62, I see thicker base of cantiliver, supposedly containing rubber damper? Or is it solid metal?

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #134 on: June 13, 2018, 11:34:01 AM »

DST-62 and DST in principle are very similar. Both have Torsion Bar and a damper-membran.





« Last Edit: June 14, 2018, 05:52:04 PM by Vintagepsych »

 Logged

Yuriy

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Jump to: => Cartridges and Styli 

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Author

Topic: Neumann DST copy??? (Read 39311 times)

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« **Reply #135 on:** June 13, 2018, 05:40:44 PM »

I was always wondering why does he relies on Neodim magnets instead of Alnico?
Yes it is very hard to properly align the magnetic field of the AlNiCo due to changes of the crystals.

By the way,have you ever experimented with TiNiCo magnets? TiNiCo was used in some Russian military equipment back in sixties. I have a modified MM Stanton cartridge with TiNiCo magnet inside and the sound is outstanding.

Please continue with the interesting info of what are you doing. Thank you.

« Last Edit: June 13, 2018, 05:58:28 PM by Alexandro »

Logged

Alexander.

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195

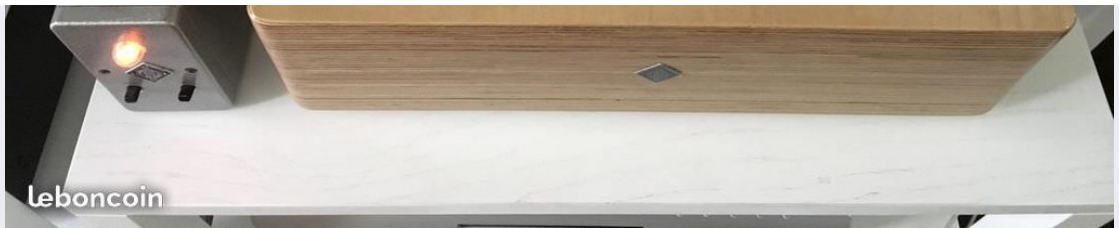


Re: Neumann DST copy???

« **Reply #136 on:** June 23, 2018, 11:38:47 AM »

PA2. Modestly and majestically





« Last Edit: June 25, 2018, 06:04:37 AM by
Vintagepsych »

Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

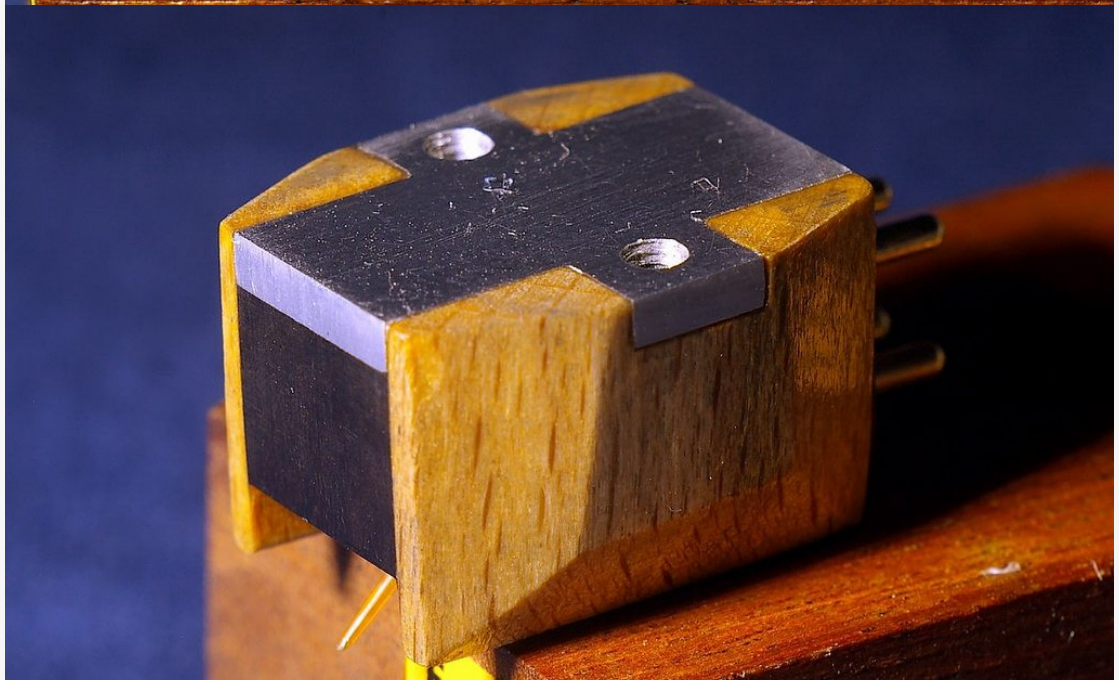
sculptor of sound

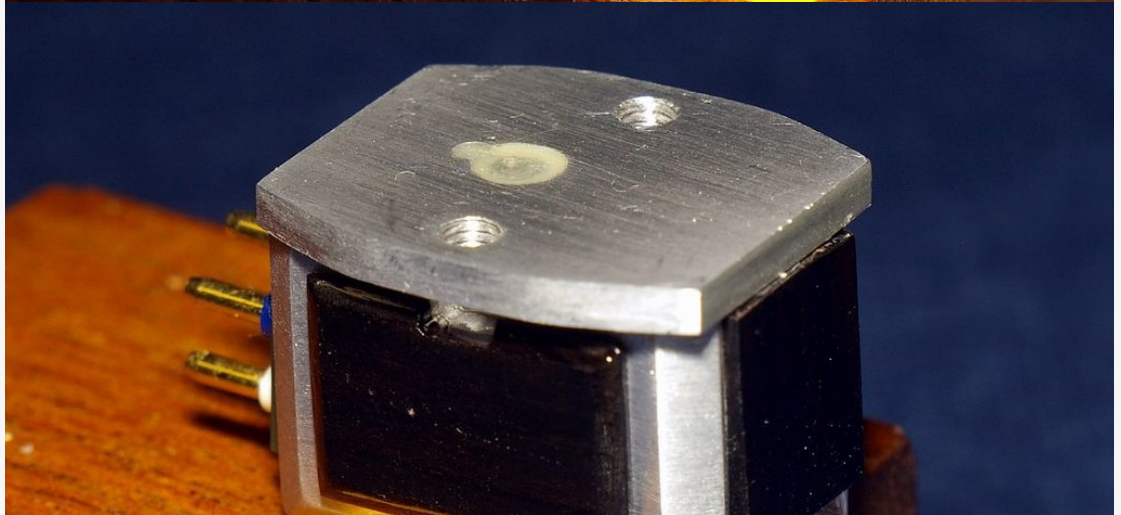
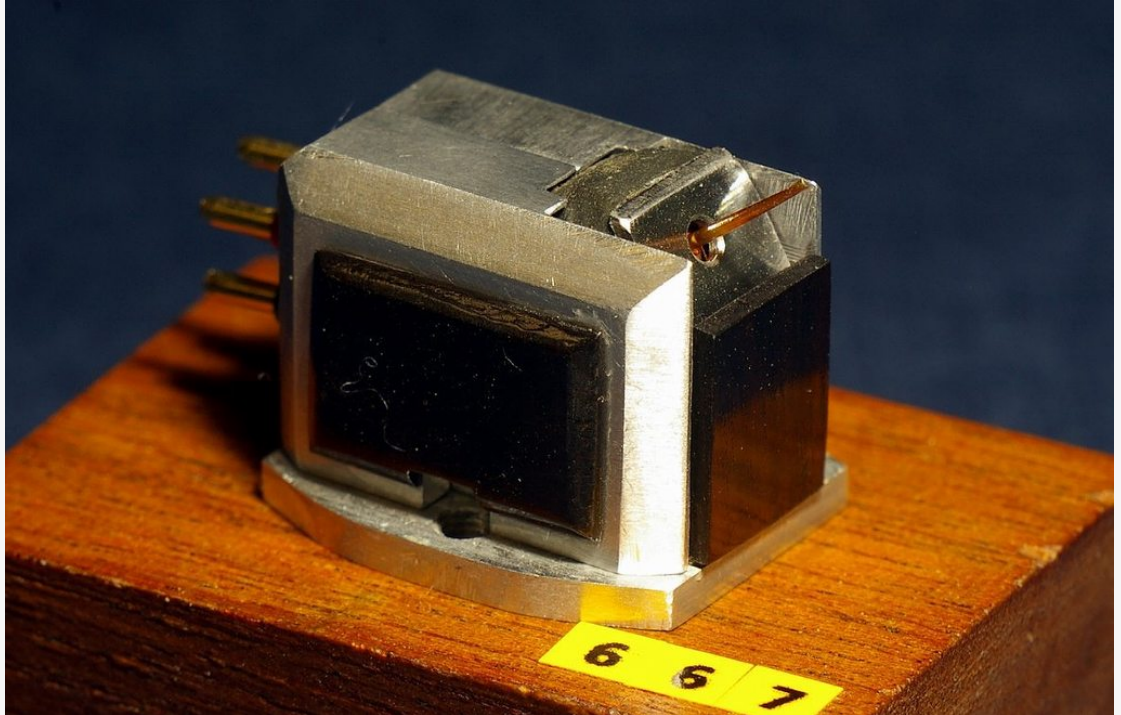
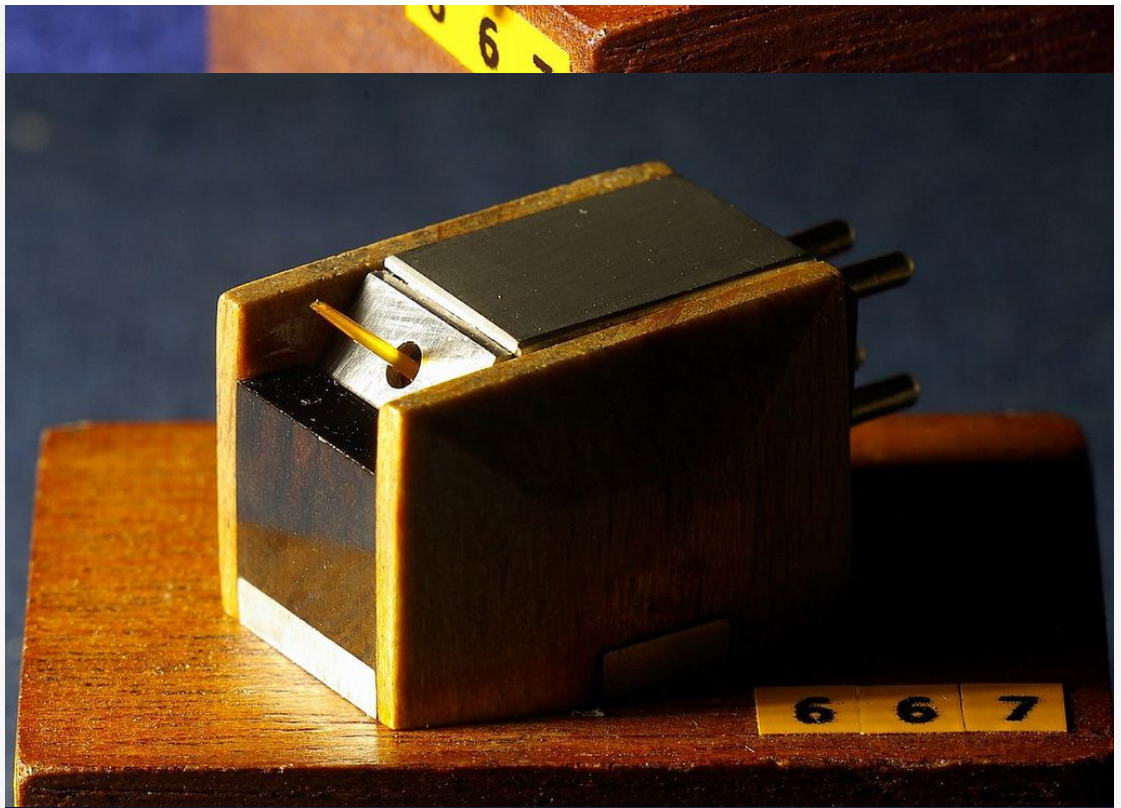


Re: Neumann DST copy???

« Reply #137 on: June 24, 2018, 04:58:29 PM »

Yura, for you and colleagues on the vinyl mind, I presented pictures of my new sound platform materialized in the form of two cartridges. 🤖







Hello everyone from Vladivostok.))
Dmitry.

 Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195




Re: Neumann DST copy???

« Reply #138 on: June 24, 2018, 08:03:00 PM »

Wow! I congratulate! Cool! Look very solid. It is possible in more detail?
What cantilever? What vertical angle? What magnets? How many magnets?

« Last Edit: December 31, 2018, 03:12:30 PM by
Vintagepsych »

 Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #139 on: June 25, 2018, 11:51:24 AM »

You guys are amazing. Wish I had 10% of your skills.

 Logged

Alexander.

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #140 on: June 25, 2018, 01:32:04 PM »

Cantilever - cactus, angle of 32 degrees, styluses 0.5 and 0.7 x 0.2. . The platform is universal for 1, 2 and 4 magnets, I can put neodymium, you can alnico, or samarium-cobalt. Coil cores from different permalloy. Coils - wire is different, different methods of winding. I'm always on the lookout))

 Logged

best regards
Dmitry

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound

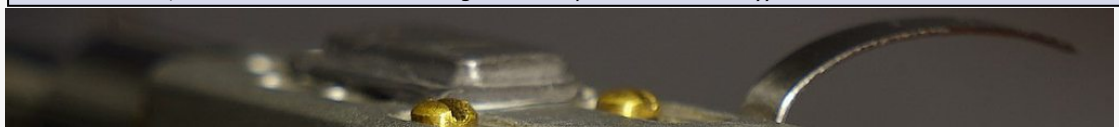


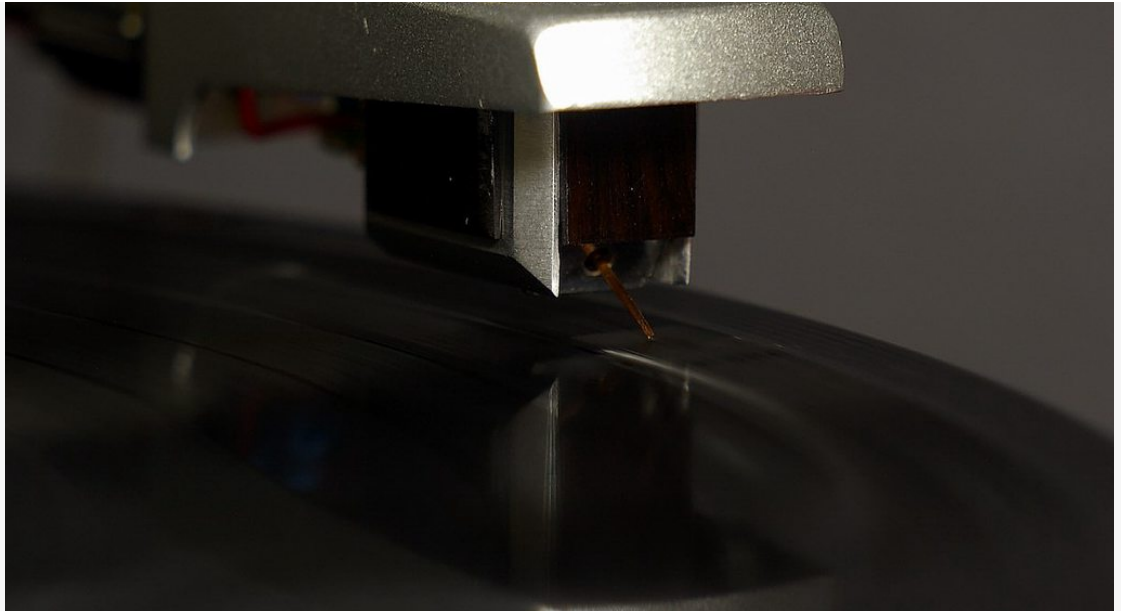
Re: Neumann DST copy???

« Reply #141 on: June 25, 2018, 02:13:41 PM »

Quote from: Delta667 on June 25, 2018, 01:32:04 PM

Cantilever - cactus, angle of 32 degrees, styluses 0.5 and 0.7 x 0.2. . The platform is universal for 1, 2 and 4 magnets, I can put neodymium, you can alnico, or samarium-cobalt. Coil cores from different permalloy. Coils - wire is different, different methods of winding. I'm always on the lookout))





 Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195




Re: Neumann DST copy???

« Reply #142 on: June 26, 2018, 04:21:17 AM »

Ogo! To paste a diamond needle on a cactus - it is very difficult! Why the cactus and than it is better, than, for example, sapphire?
Anyway it is great work! My respect!!!!

« Last Edit: June 26, 2018, 04:48:04 AM by
Vintagepsych »

 Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

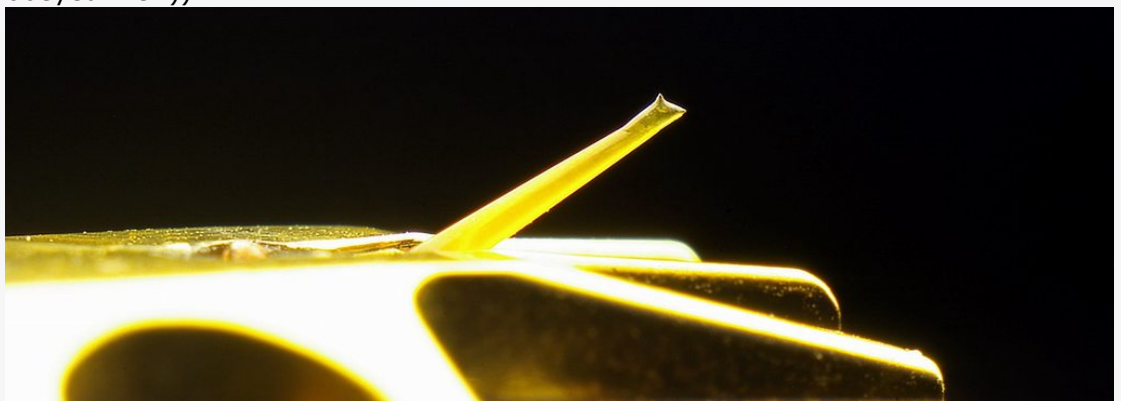
sculptor of sound



Re: Neumann DST copy???

« Reply #143 on: June 26, 2018, 11:13:26 AM »

In order to make coils with a direct winding on the cantilever in our time there are only two materials: aluminum and cactus. Cactus was the most accessible material for me. It was much later that I realized that I had chosen a wonderful and amazing material that obeyed me.))



 Logged

best regards
Dmitry

mamakasou

Member

☐ Offline

Posts: 289

**Re: Neumann DST copy???**

« Reply #144 on: July 08, 2018, 08:37:56 PM »

Amazing gear!
Great pictures.

Was that a test record?

Logged

pde2000

Member

☐ Offline

Age: 55

Location: upminster

Posts: 2,715

**Re: Neumann DST copy???**

« Reply #145 on: July 08, 2018, 09:32:33 PM »

[https://en.wikipedia.org/wiki/Queen_\(Queen_album\)](https://en.wikipedia.org/wiki/Queen_(Queen_album))

Logged

GB

Paul in the ning nang nong, where the cows go bong, and the teapots jibber jabber joo.

Delta667

Member

☐ Offline

Location: Vladivostok

Posts: 74

sculptor of sound

**Re: Neumann DST copy???**

« Reply #146 on: July 12, 2018, 05:53:08 AM »

DS667

Delta-1(240hm), Delta-2(9 Ohm), Delta-3(140hm).
different styles of coil winding, different wire.

Output 0.6 - 0.8 mV

Style of sound is similar (Delta)



Logged

best regards
Dmitry

Andr039

Member

☐ Offline

Location:
Königsberg, Russia
Posts: 2,123

**Re: Neumann DST copy???**

« Reply #147 on: July 22, 2018, 12:32:32 PM »

Юрий, см. личное сообщение

Logged

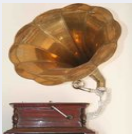
Andrey

wer

Member

☐ Offline

Location: Catalunya
Posts: 9,120

**Re: Neumann DST copy???**

« Reply #148 on: July 22, 2018, 09:30:35 PM »

Hi Yuriy, i wonder whether they could help this gentleman?

<https://www.lencoheaven.net/forum/index.php?topic=29881.0>

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

Vintagepsych

Member

☐ Offline

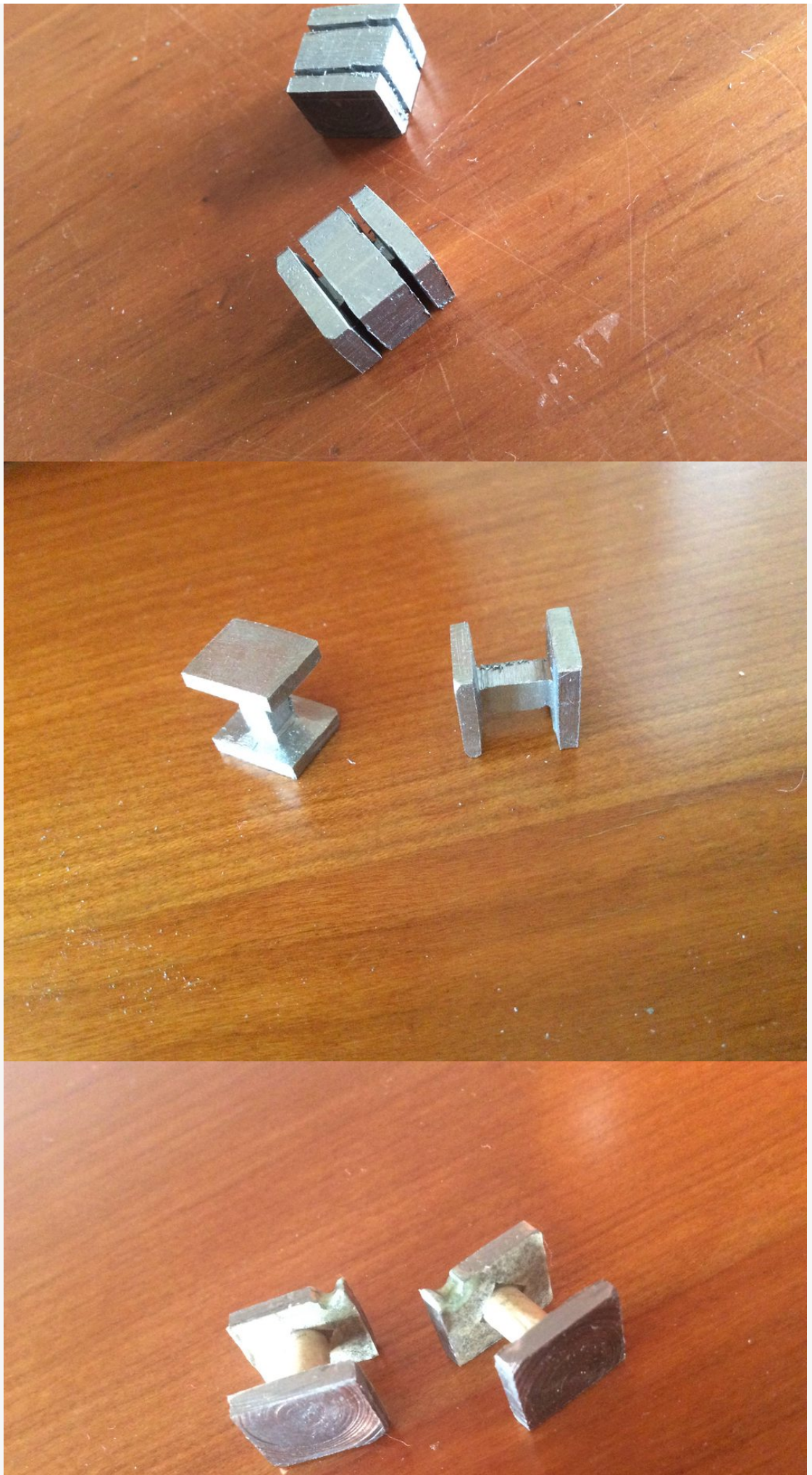
Age: 74
Location: Russia
Posts: 195

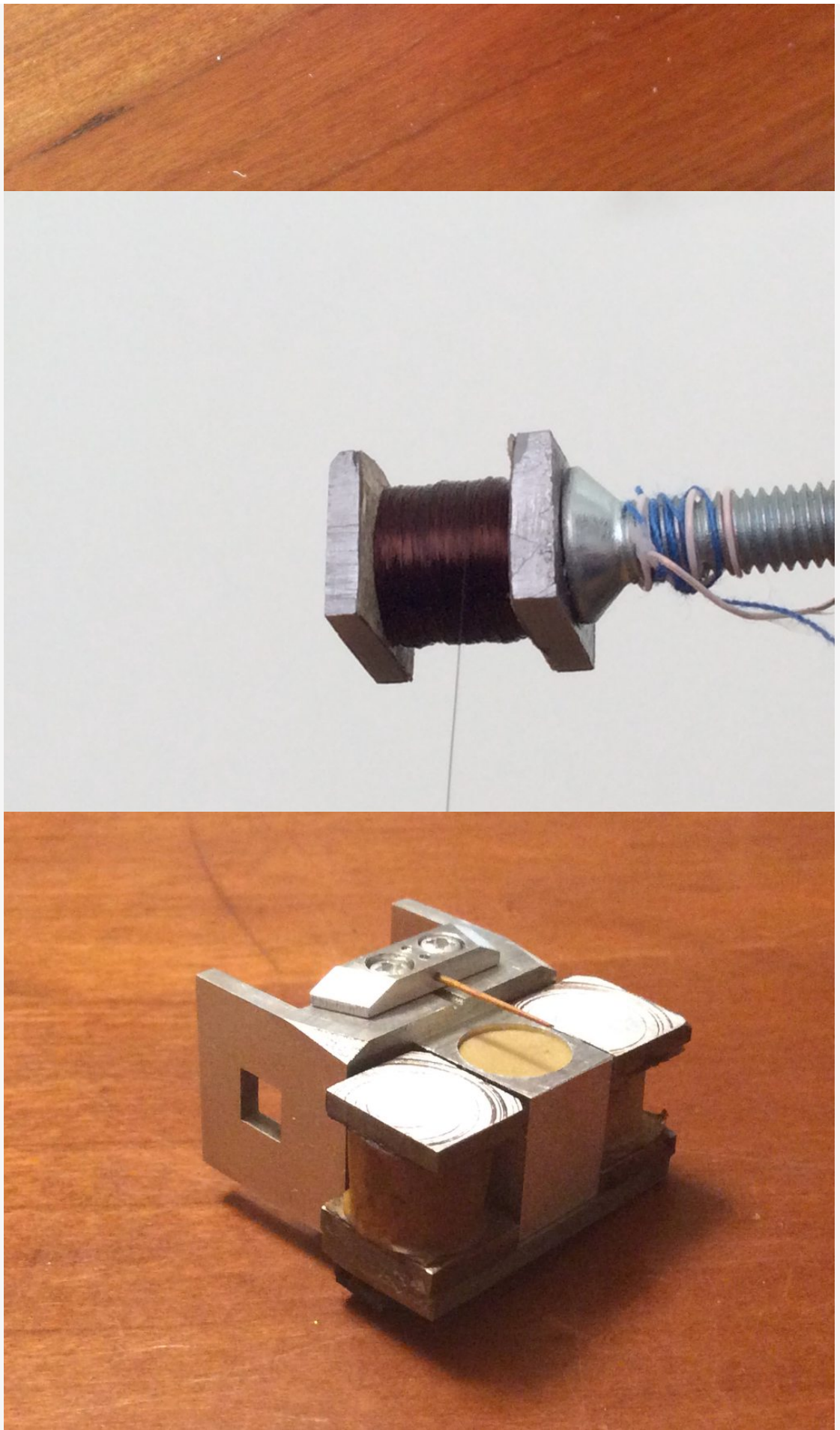
**Re: Neumann DST copy???**

« Reply #149 on: August 01, 2018, 08:27:41 PM »

Electromagnets for new Cartridge







Jump to: => Cartridges and Styli ▼ go

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Author

Topic: Neumann DST copy??? (Read 39312 times)

Alexandro

Member

☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« [Reply #150 on:](#) August 01, 2018, 08:41:37 PM »

Great pictures as always, Yuriy.
Is this a cactus cantilever?

Logged

Alexander.

Vintagepsych

Member

☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« [Reply #151 on:](#) August 01, 2018, 08:53:39 PM »

Thanks Alexander. Yes it is a cactus. It is simple for the picture. I haven't decided what cantilever I will use for the new project.

« *Last Edit:* December 31, 2018, 03:14:00 PM by
[Vintagepsych](#) »

Logged

Yuriy

Vintagepsych

Member

☐ Offline

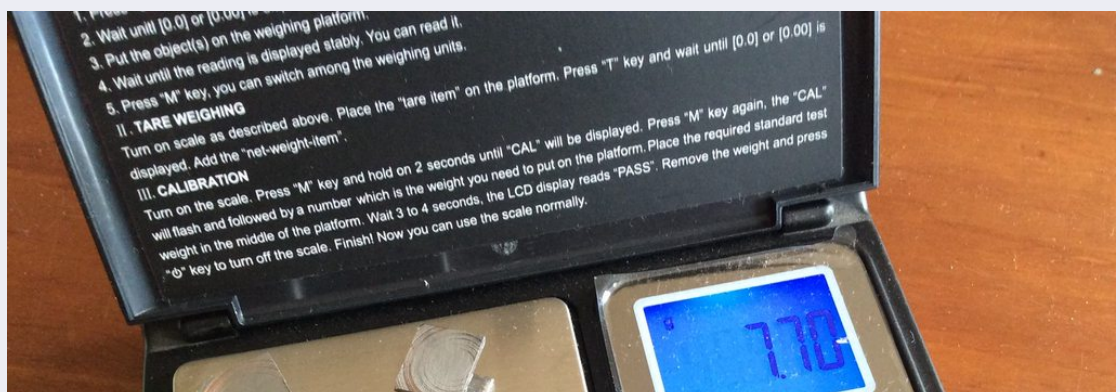
Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

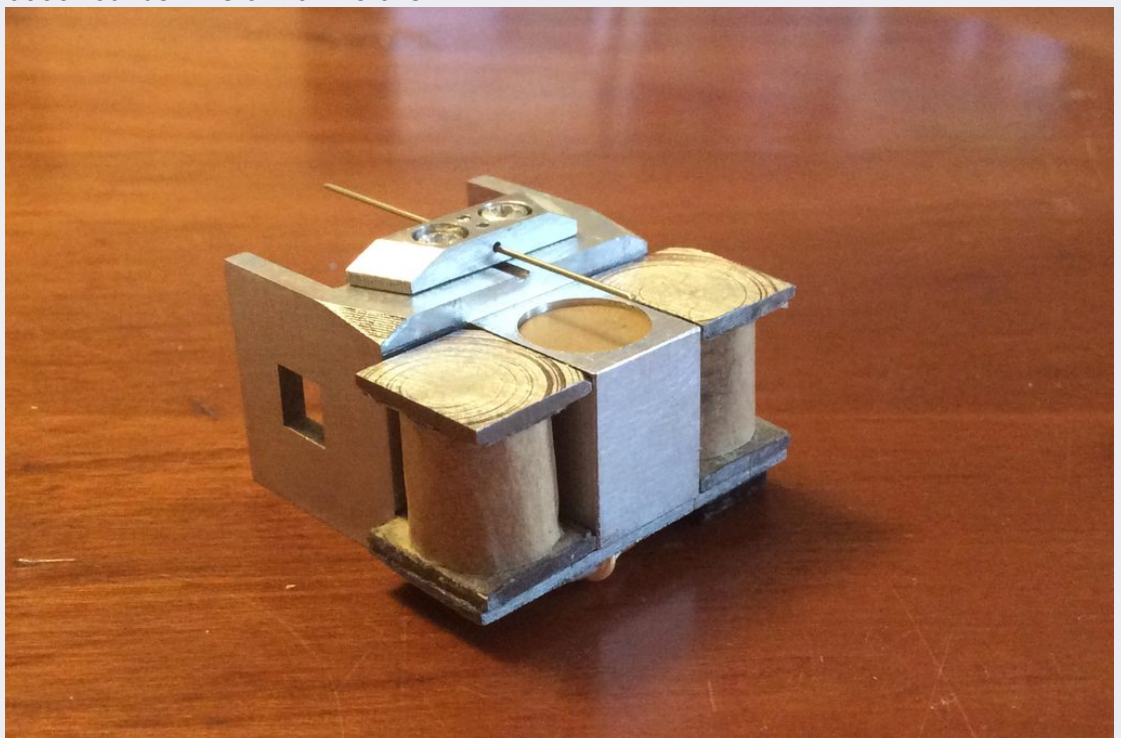
« [Reply #152 on:](#) August 03, 2018, 07:05:39 AM »


The magnetic system has turned out too heavy. Therefore I cut off windings and have reduced the sizes of elements of magnetic system and have again reeled up windings.





6000 rounds wire of 70 microns





Here it is so much better

« Last Edit: August 06, 2018, 03:16:00 PM by
Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

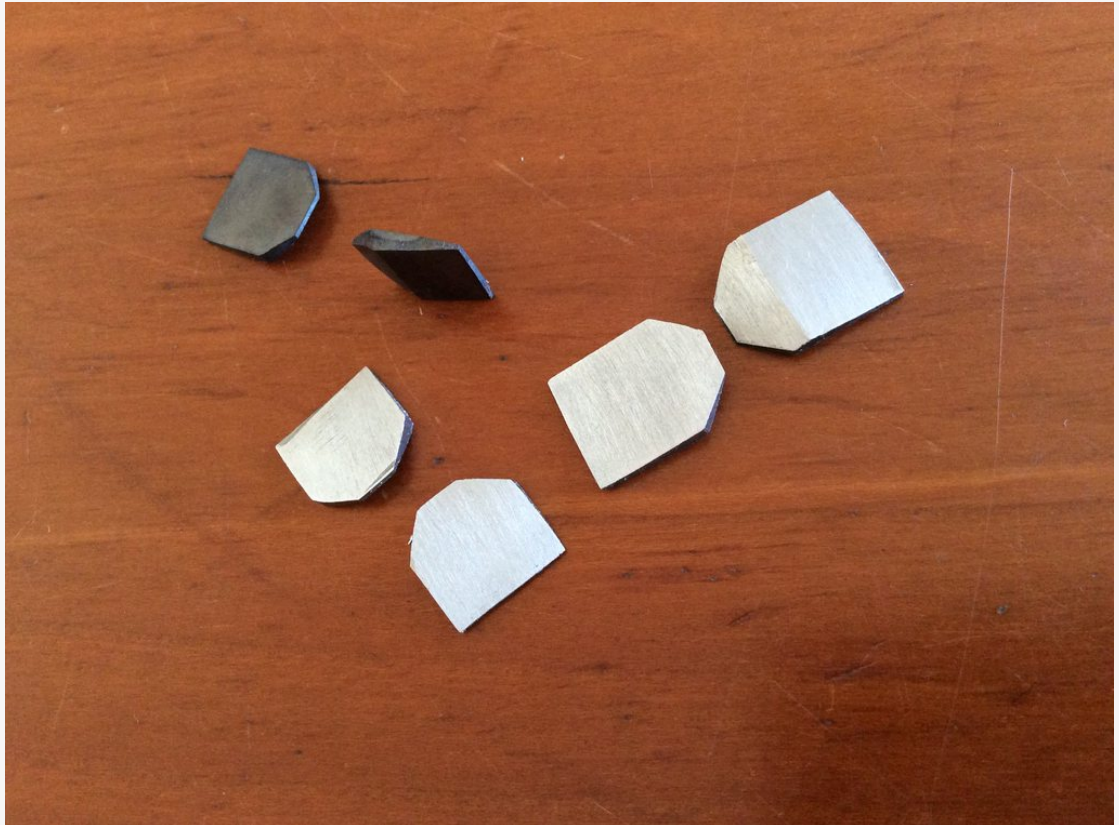
Posts: 195



Re: Neumann DST copy???

« Reply #153 on: August 06, 2018, 02:12:21 PM »

Polar tips



« Last Edit: August 16, 2018, 08:19:35 AM by
Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

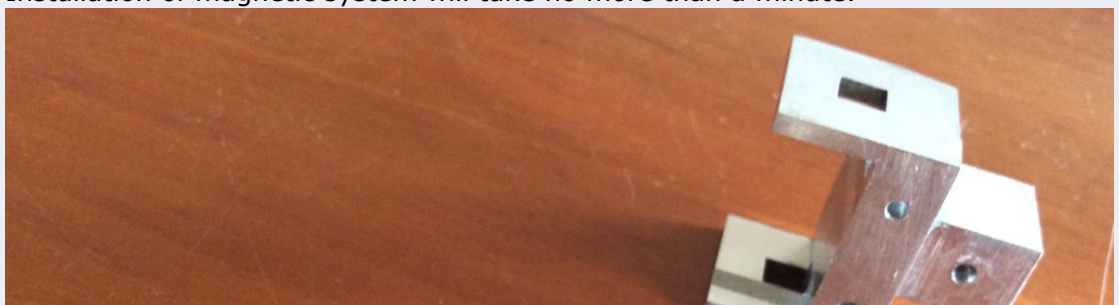
Posts: 195

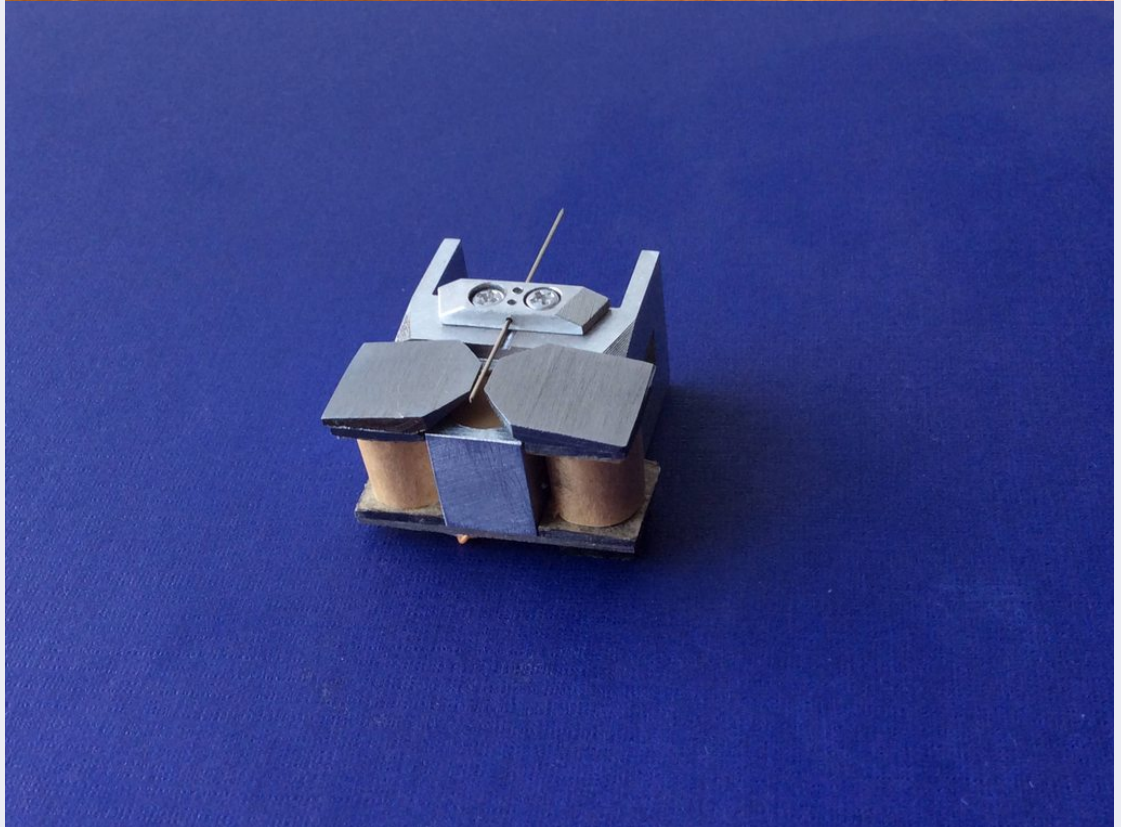


Re: Neumann DST copy???

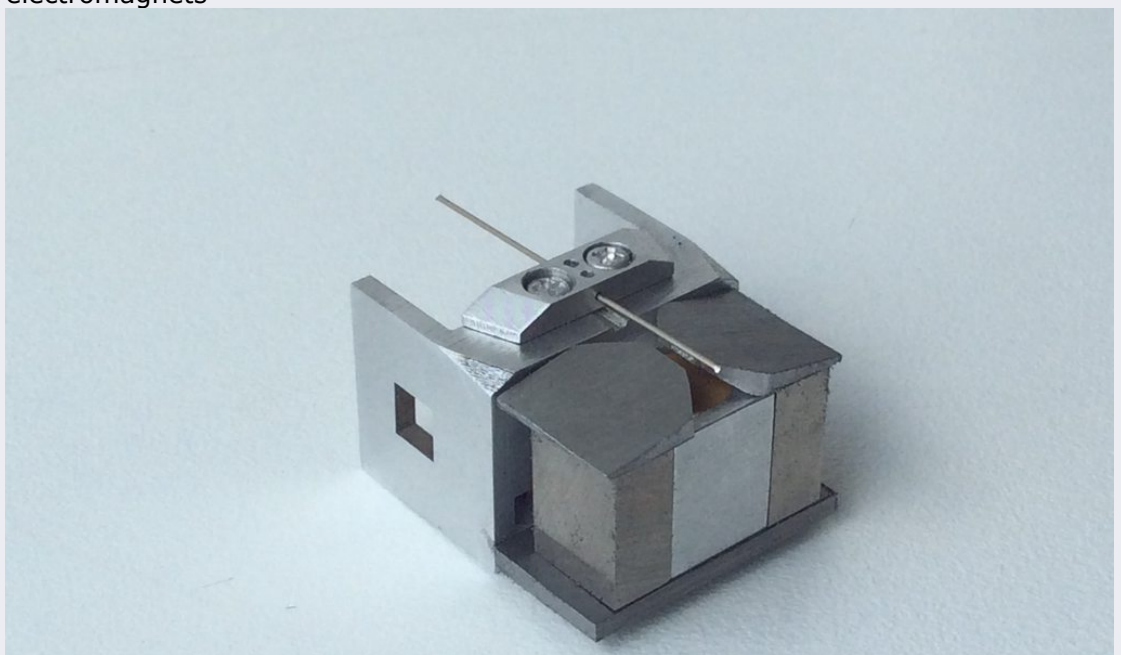
« Reply #154 on: August 06, 2018, 02:26:22 PM »

The magnetic system is fixed by one screw. Thus I can easily change magnetic systems. For example I can test a systems on electromagnets, alnico, samarium, neodimium. Installation of magnetic system will take no more than a minute.

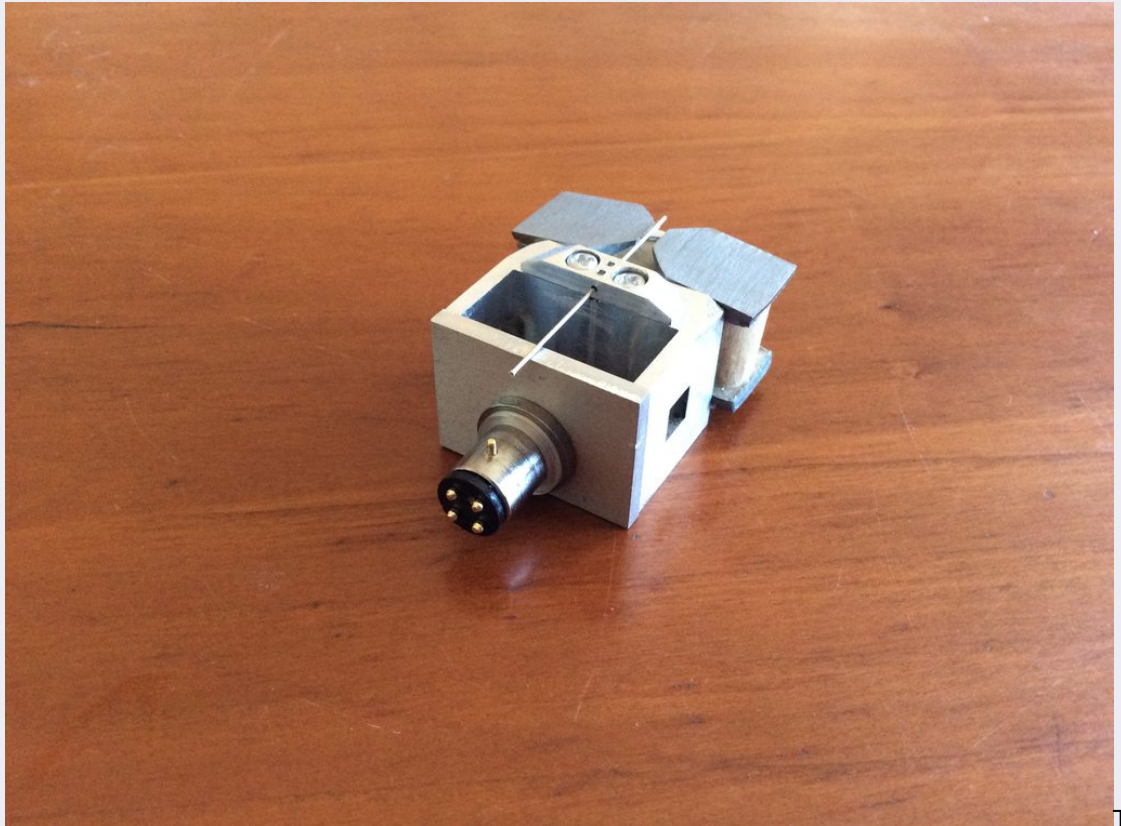




electromagnets



alnico



The

back wall with the connector is fixed



Cantilever. One of Options

« Last Edit: December 31, 2018, 03:14:57 PM by
Vintagepsych »

Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #155 on: August 06, 2018, 04:24:30 PM »

Beauty !

best regards
Dmitry

Logged

Vintagepsych

Member



☐ Offline

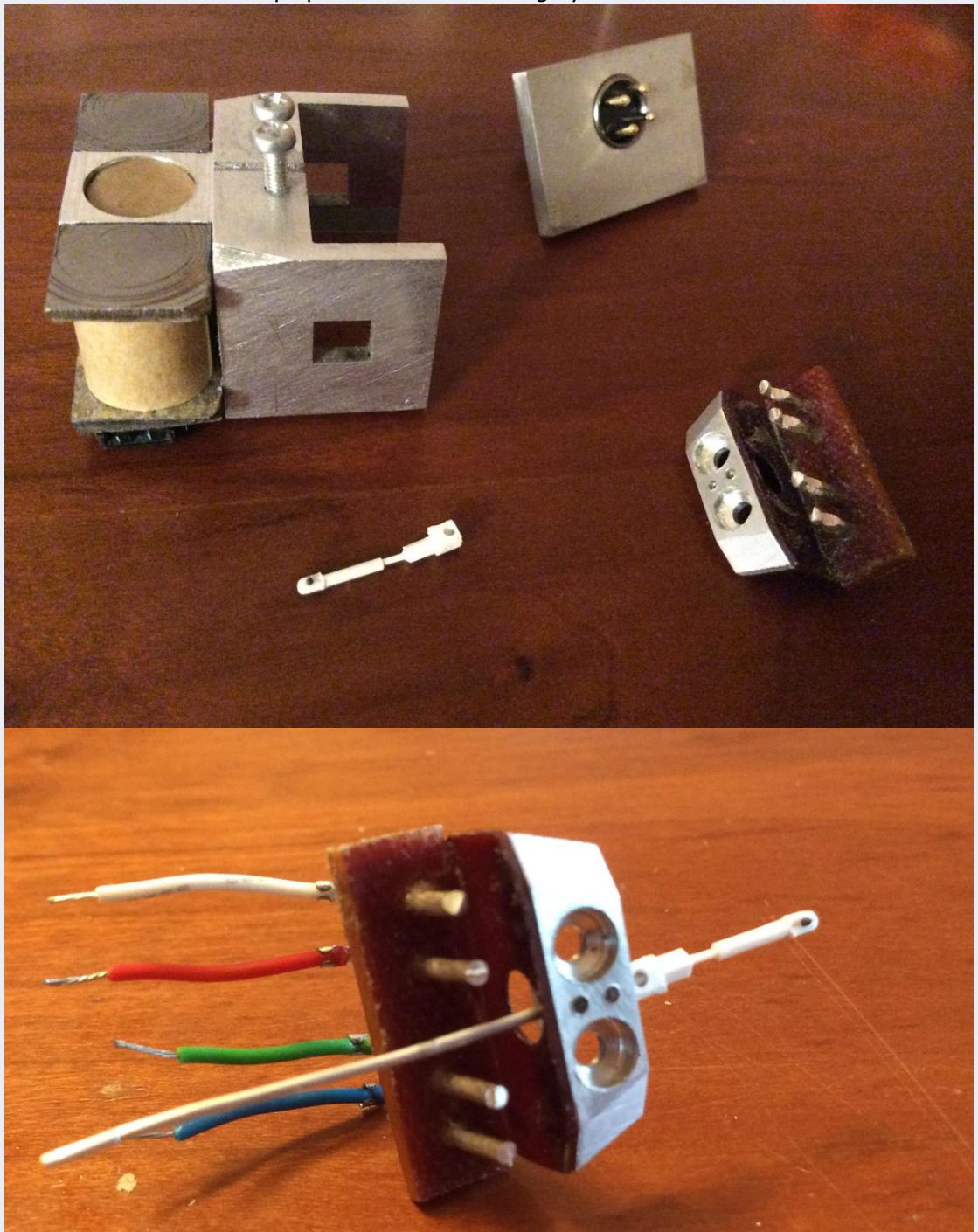
Age: 74
Location: Russia
Posts: 195

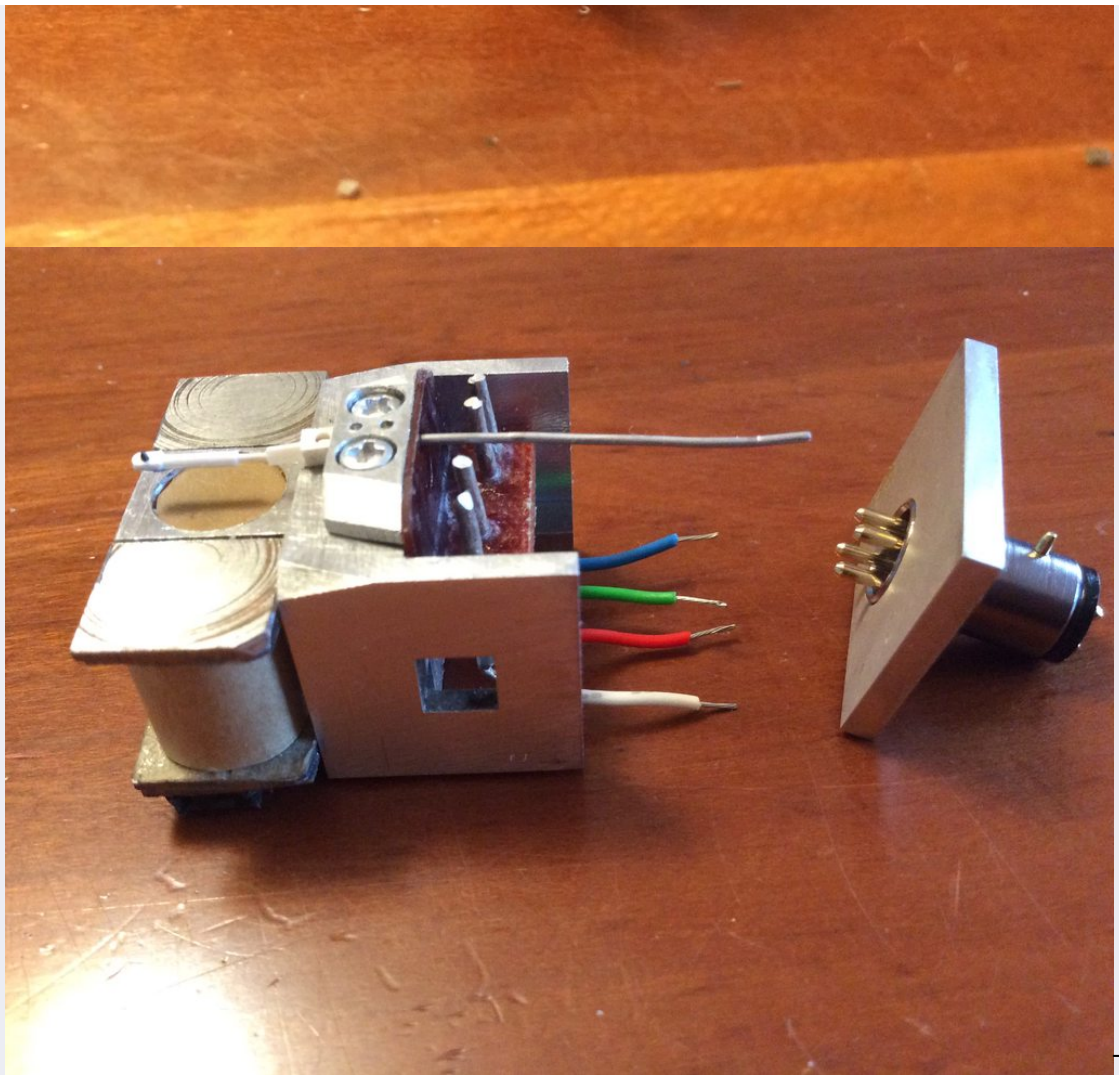


Re: Neumann DST copy???

« Reply #156 on: August 06, 2018, 05:58:53 PM »

Thanks Dima. Next step: production of moving system.





This

Moving system is fixed by two screws. It is easily dismantled and can quickly be replaced.

« Last Edit: September 21, 2018, 04:42:43 PM by Vintagepsych »

Logged

Yuriy

dava

Member



Offline

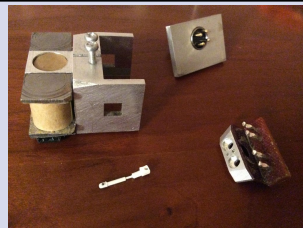
Posts: 14



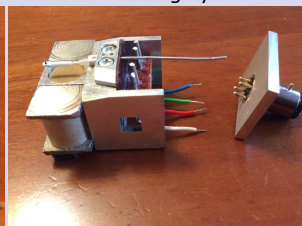
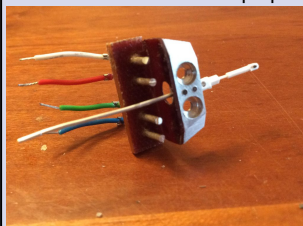
Re: Neumann DST copy???

« Reply #157 on: September 23, 2018, 08:52:51 AM »

Quote from: Vintagepsych on August 06, 2018, 05:58:53 PM



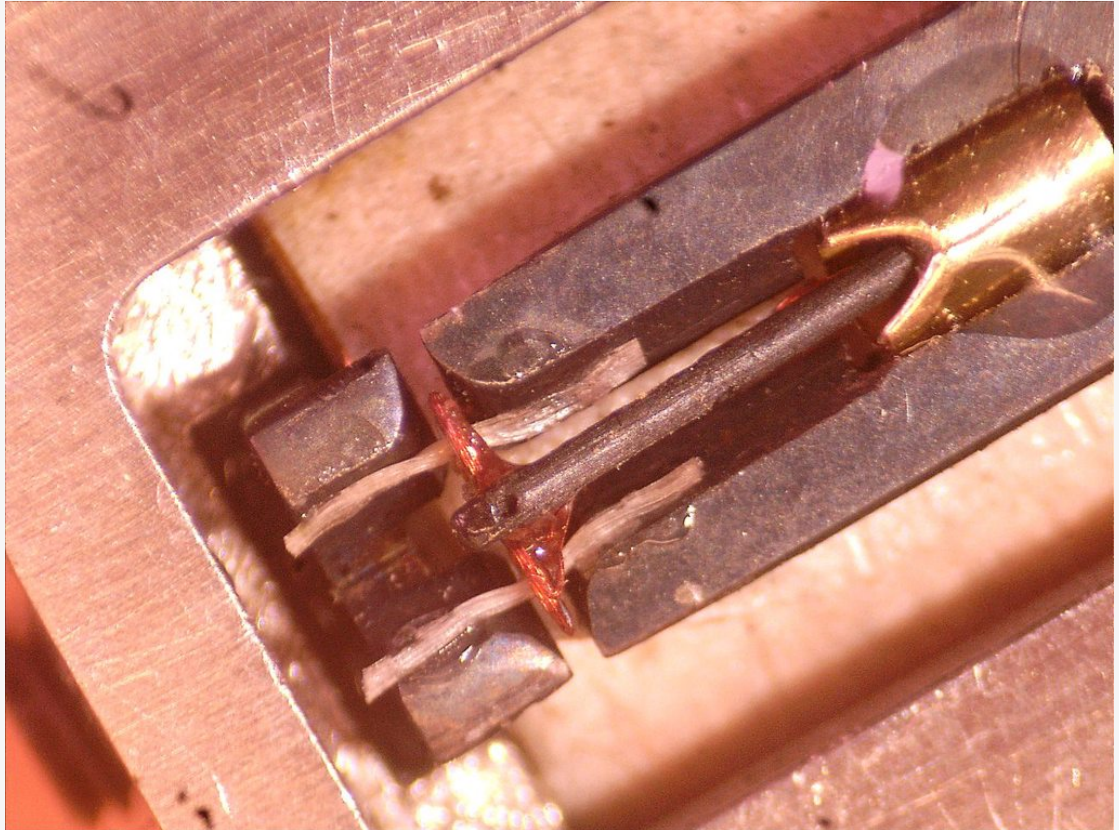
Thanks Dima. Next step: production of moving system.



This Moving system is fixed by two screws. It is easily dismantled and can quickly be replaced.

This Moving system is fixed by two screws. It is easily

Nice job Yurij.I finishing my direct couple field coil project,0.4mm magnetic gap for maximum output,and ready to play./WNNCYKU.jpg]



[/url]

« Last Edit: September 25, 2018, 05:28:05 AM by dava »

Logged

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #158 on: September 23, 2018, 12:07:06 PM »

Bravo, Dava! Super project! Top sound! Please more photo...

Logged

Yuriy

dava

Member



☐ Offline

Posts: 14



Re: Neumann DST copy???

« Reply #159 on: September 23, 2018, 04:15:15 PM »

Quote from: Vintagepsych on September 23, 2018, 12:07:06 PM

Bravo, Dava! Super project! Top sound! Please more photo...

For people who starting to making DST clone . 1.cartridge mass,2.damping rubber compliance.3.tracking pressure ,all this, in one formule.

.Any mistake in this line,and you will have conventional cartridge sound.If you not ever hearing original Neumann DST ,you job can be waste. Neumann dst have to R2R similarity , this original sound with Audiotechnika AT stylus damping, is waste time .

« Last Edit: September 24, 2018, 06:10:15 AM by dava »

Logged

Delta667

Member



Re: Neumann DST copy???

« Reply #160 on: September 26, 2018, 03:14:41 AM »

☐ Offline

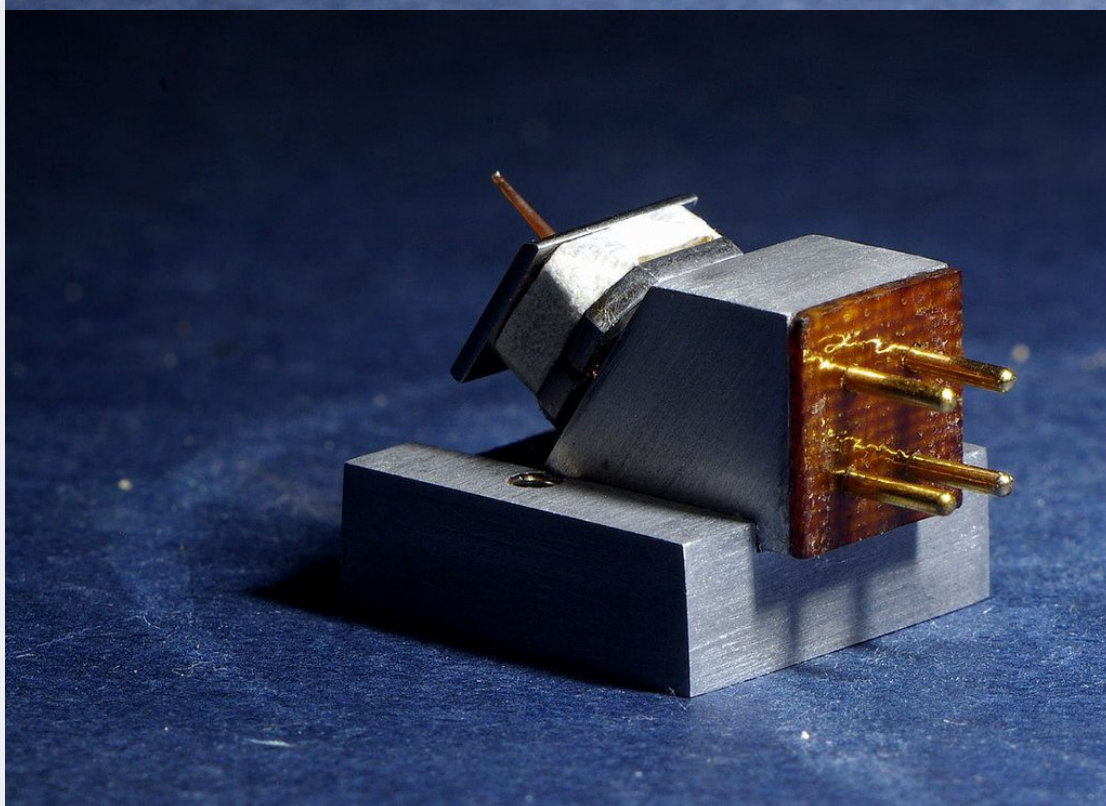
Location: Vladivostok
Posts: 74

sculptor of sound

Yura, we need your efforts, take care of your health and do not get sick! 🙏

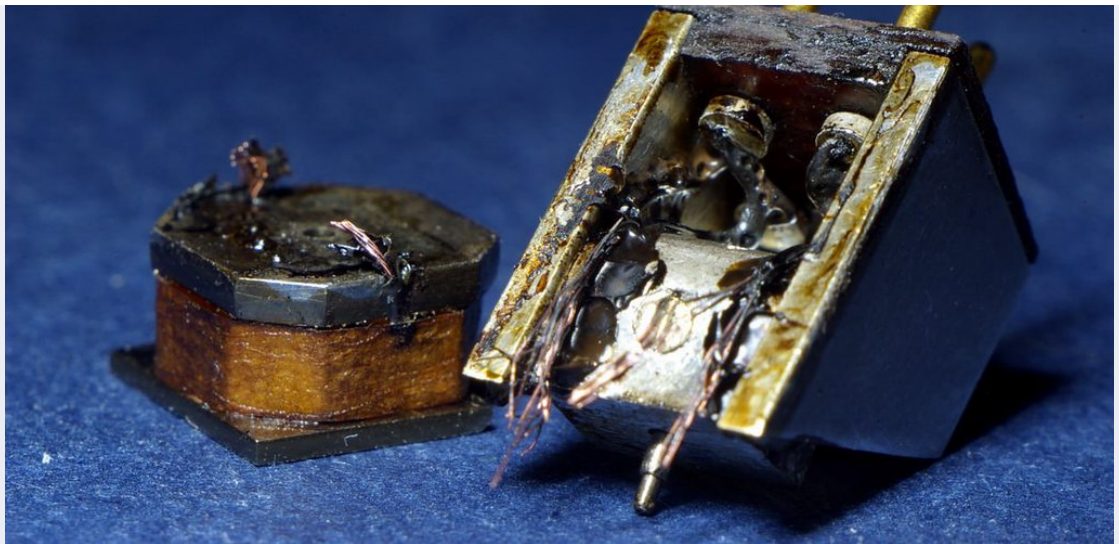
You need to do it, only in this case there can be a new sound, or a good old one))

My Phoenix. He was burnt but reborn from the ashes in a new way. With a new timbre in his voice.



Before that happened it is ((





Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

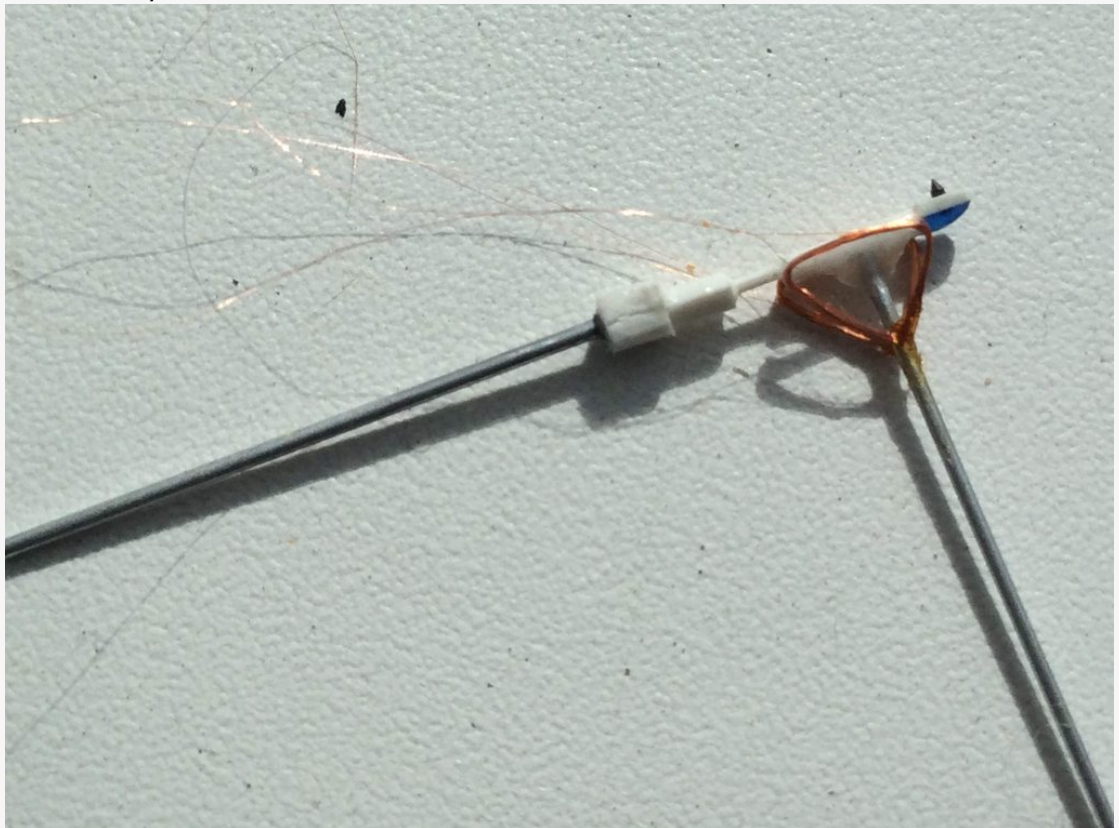
Posts: 195



Re: Neumann DST copy???

« Reply #161 on: September 26, 2018, 08:33:10 AM »

Work slowly moves



Logged

Yuriy

wer

Member



☐ Offline

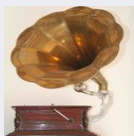


Re: Neumann DST copy???

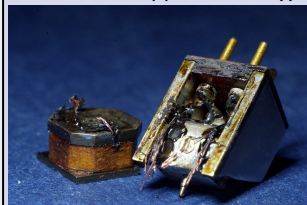
« Reply #162 on: September 26, 2018, 09:14:38 AM »

Quote from: Delta667 on September 26, 2018, 03:14:41 AM

Location: Catalunya
Posts: 9,120



Before that happened it is ((



How do you hook up 240V to four pins 🤖

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #163 on: September 26, 2018, 11:16:57 AM »

According to my technological process, after installing the stylus, I put the cartridge in the drying chamber, but the electronics responsible for the thermoregulation refused and the dryer turned into an oven))

In the morning I saw this picture, and the cartridge was already cold 😞

Logged

best regards
Dmitry

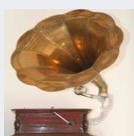
wer

Member



☐ Offline

Location: Catalunya
Posts: 9,120



Re: Neumann DST copy???

« Reply #164 on: September 26, 2018, 05:37:32 PM »

Terrible 🙄

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

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Author

Topic: Neumann DST copy??? (Read 39313 times)

dava

Member



☐ Offline

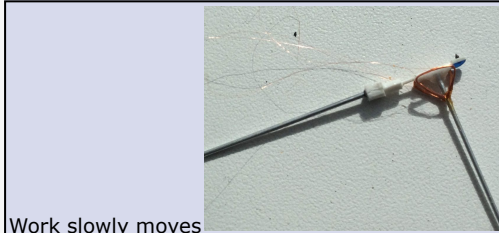
Posts: 14



Re: Neumann DST copy???

« [Reply #165](#) on: September 27, 2018, 02:08:47 PM »

Quote from: Vintagepsych on September 26, 2018, 08:33:10 AM



Work slowly moves

looks nice

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« [Reply #166](#) on: September 27, 2018, 04:51:47 PM »

It seems it is ready






Field coil_



Share



« Last Edit: April 25, 2023, 04:29:25 PM by Vintagepsych »

 Logged

Yuriy

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #167 on: September 27, 2018, 05:15:38 PM »

Yuri, just a silly question.

Why did you install the connector with pin downwards (ike for ortofon A), not upwards as for many modern headshells?

As i see you do have a sliding base to adjust the arm position, seems to me no reason to use an ortofon adapter

And congratulation!! 🙄

 Logged

Andrey

Vintagepsych

Member



☐ Offline

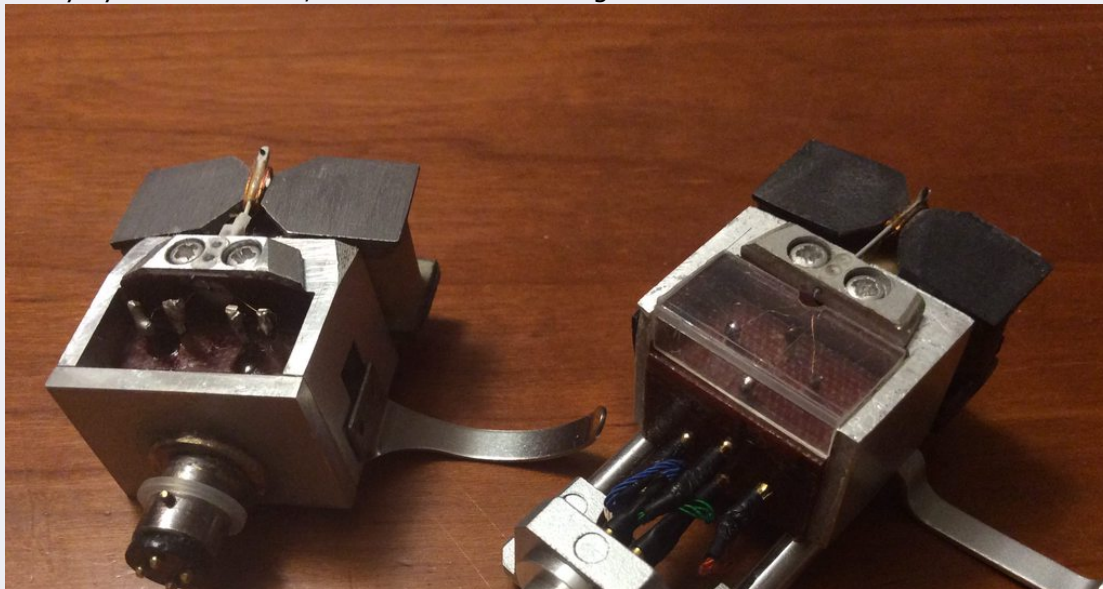
Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???


« Reply #168 on: September 27, 2018, 05:28:10 PM »

Hi Andrey! I have made a similar cartridge for SME-Ortofon earlier. The main turntable in my system EMT927, therefore this cartridge I did for EMT





« Last Edit: October 01, 2018, 07:24:20 AM by
Vintagepsych »

 Logged

Yuriy

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #169 on: September 27, 2018, 05:38:15 PM »

I see, thanks!

 Logged

Andrey

FLHX

Member



☐ Offline

Age: 55
Location:
Saarbrücken /
Germany



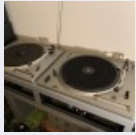
Re: Neumann DST copy???

« Reply #170 on: September 27, 2018, 06:54:11 PM »

Great cartridges! Yuriy, I admire your skills... Would be lot of fun to try such a Neumann DST style cartridge on my R80...

Best regards

Posts: 135



Michael

Logged

Michael

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #171 on: September 27, 2018, 07:19:49 PM »

Thank Michael! R80 - it very cool! It is worthy an original Neumann DST!

« Last Edit: September 27, 2018, 08:00:16 PM by Vintagepsych »

Logged

Yuriy

FLHX

Member

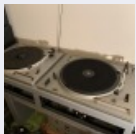


☐ Offline

Age: 55

Location:
Saarbrücken /
Germany

Posts: 135



Re: Neumann DST copy???

« Reply #172 on: September 27, 2018, 11:36:18 PM »

Yes, absolutely, but very hard to get and very expensive...

Logged

Michael

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #173 on: September 28, 2018, 03:38:21 AM »

I have looked at your photos, and have understood that you restored R80. It is big work and great art! In the same way you can make also a cartridge. Eyes are afraid, but hands do!

Logged

Yuriy

FLHX

Member

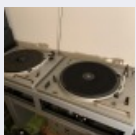


☐ Offline

Age: 55

Location:
Saarbrücken /
Germany

Posts: 135



Re: Neumann DST copy???

« Reply #174 on: September 28, 2018, 08:32:54 AM »

Dear Yuriy, the restoration of the R80 was a great joy, but very easy in comparison to your DST project... I wanted such a record player so badly... As an 927 owner you know what I mean...

But nonetheless you just planted a strange idea in my head... I'll go again through this thread, but I'll need help...

Logged

Michael

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #175 on: September 28, 2018, 09:22:32 AM »

It is necessary to try. At first it is necessary to create the project. The design of a cartridge depends on what elements you will use. In my posts there are a lot of hints

Logged

Yuriy

FLHX

Member

☐ Offline

Age: 55

Location:

Saarbrücken /

Germany

Posts: 135

**Re: Neumann DST copy???**

« Reply #176 on: September 28, 2018, 09:45:47 AM »

I'll go through your posts... I would try to make an as exact as possible copy of the DST 62... Maybe I can ask you if I have specific questions?

Best regards

Michael

Logged

Michael

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #177 on: September 28, 2018, 10:52:52 AM »

Unfortunately, I didn't do DST62. I have an original, but it is sealed. I never opened it...So, with DST62 I won't be able to help.

And DST without problems. Ask that I know - I will tell



« Last Edit: September 28, 2018, 07:02:44 PM by »



Yuriy

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #178 on: September 30, 2018, 02:00:21 PM »

How to remake the EMT-mono cartridge on the field coil.



These cartridges are some of the best in sound. Their warm and soft sound can compete with Neumann DST or Ortofon SPU. You can get even better sound if you upgrade the magnetic system: replace the original magnets alnico with electromagnets. This conversion is simple and relatively safe. In addition, it is always possible to easily install the magnets back.

« Last Edit: September 30, 2018, 03:21:07 PM by Vintagepsych »

Logged

Yuriy

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195


**Re: Neumann DST copy???**

« Reply #179 on: September 30, 2018, 02:06:20 PM »

So, as I have difficulties with English, I will try to show the process on real photos





 Logged

Yuriy

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Author

Topic: [Neumann DST copy???](#) (Read 39314 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

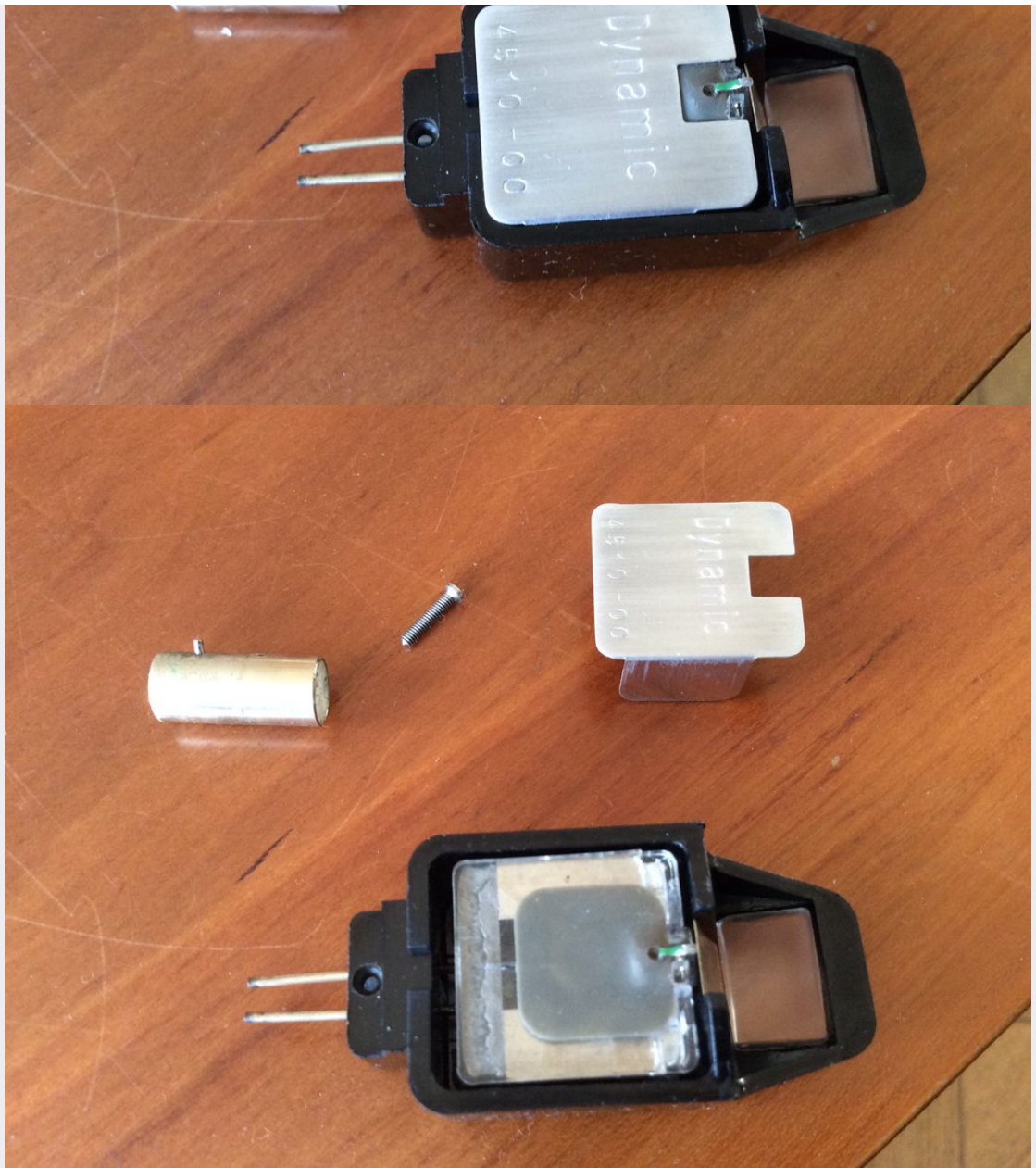


Re: Neumann DST copy???

« [Reply #180 on: September 30, 2018, 02:10:41 PM](#) »

Open the cartridge





« Last Edit: September 30, 2018, 02:24:02 PM by Vintagepsych »

Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

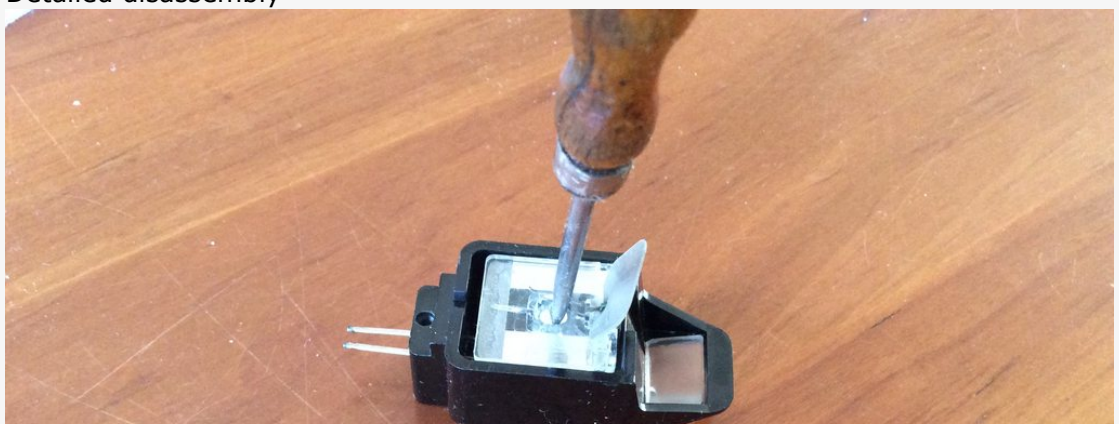
Posts: 195



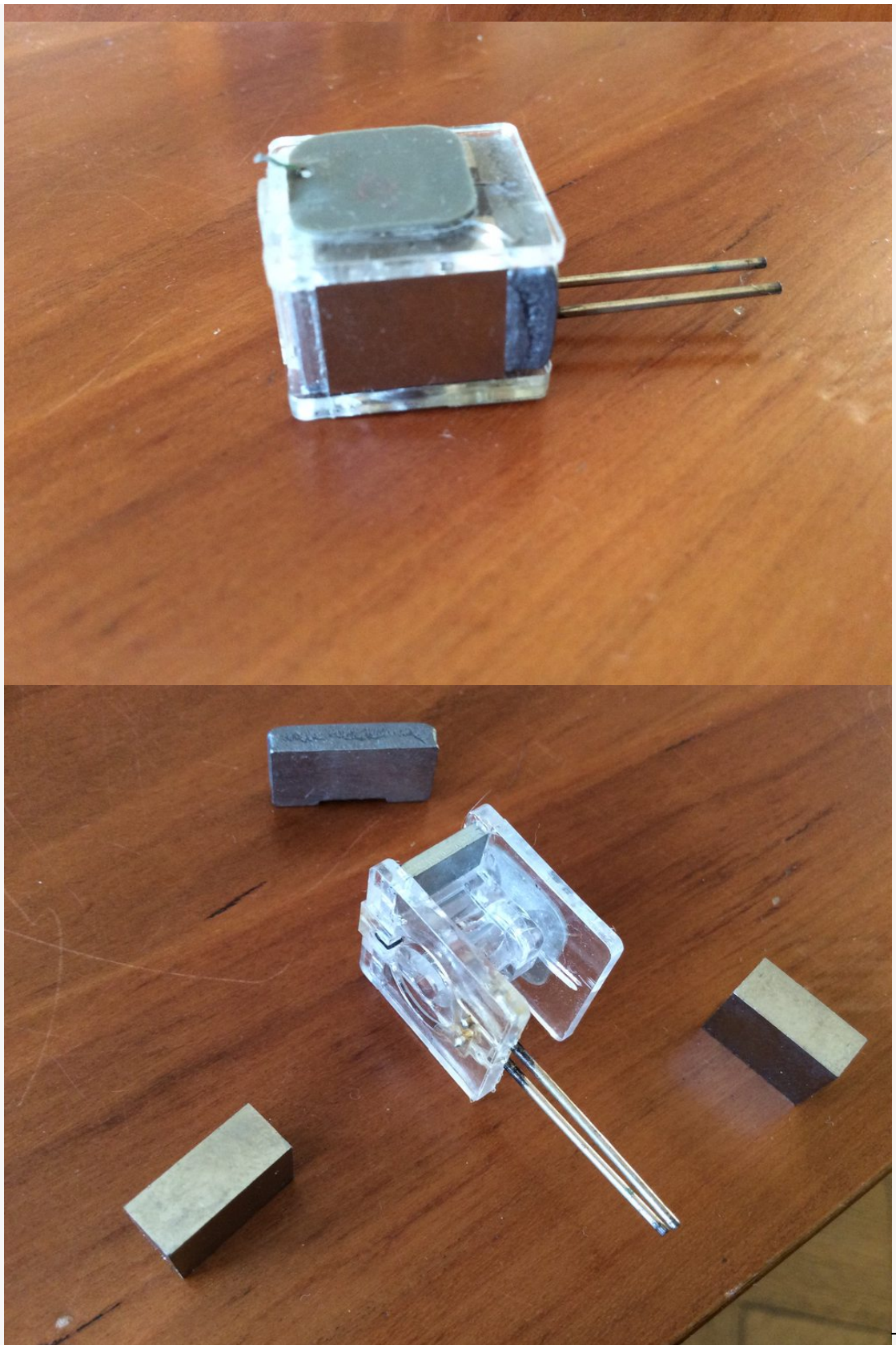
Re: Neumann DST copy???

« Reply #181 on: September 30, 2018, 02:16:19 PM »

Detailed disassembly







The unity of style with Neumann DST is striking. In both cases, the body is made of plexiglass.

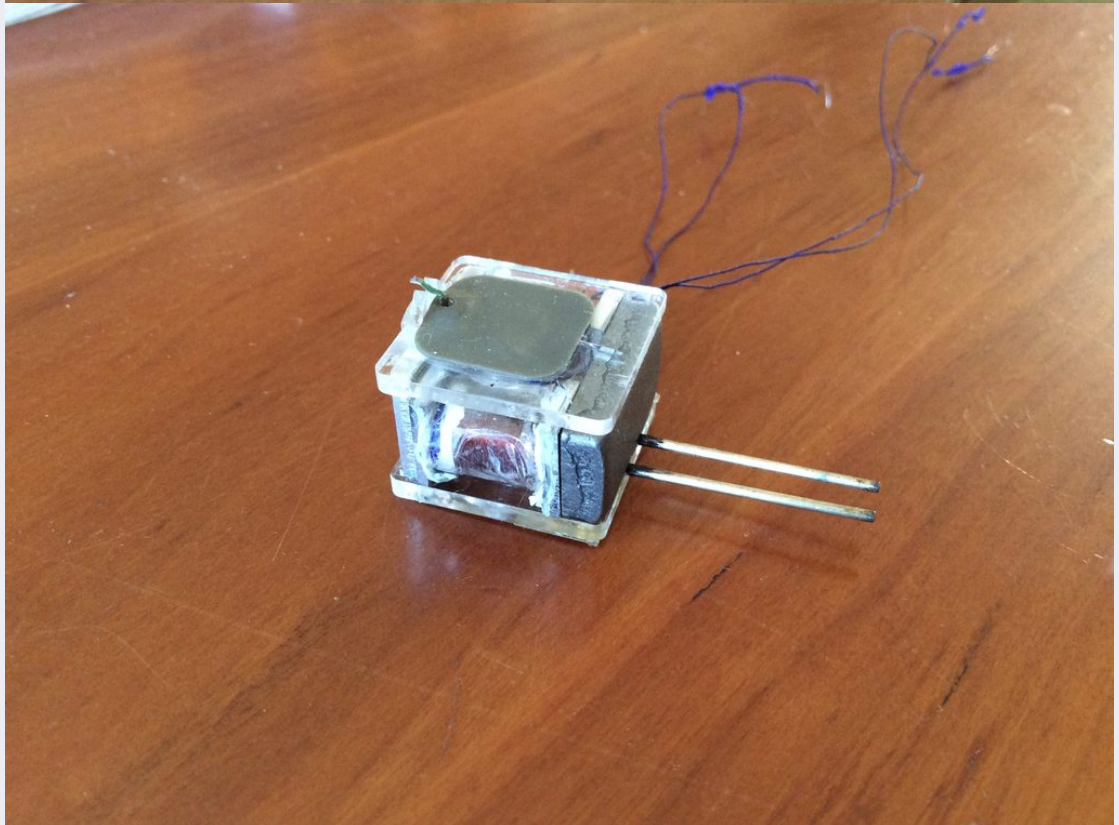
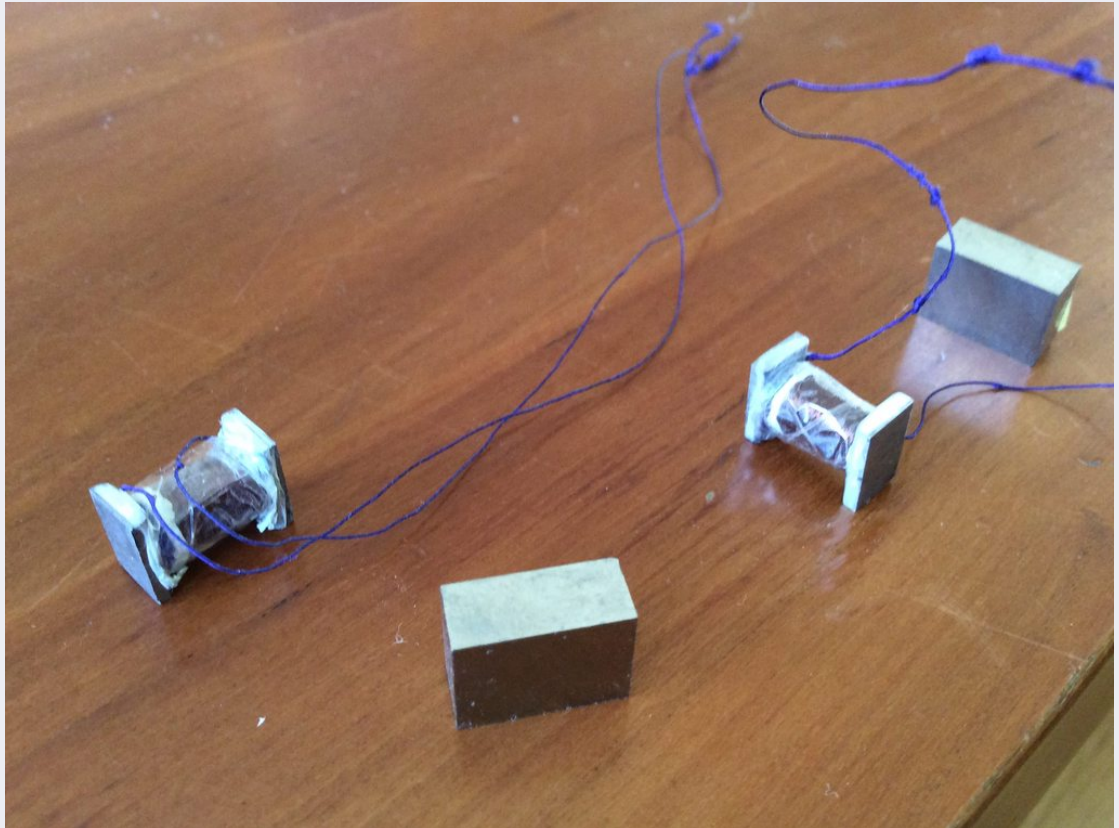
« Last Edit: September 30, 2018, 02:24:39 PM by Vintagepsych »

 Logged

Yuriy



The idea of reworking is the replacement of permanent magnets with electromagnets. How to do electromagnets, we already know. Electromagnets should take the place of magnets, so their linear dimensions should be the same. Do not confuse the polarity of the electromagnets: when the power is connected, the magnetic fields must be summed up, not subtracted.



Vintagepsych

Member

☐ Offline

Age: 74

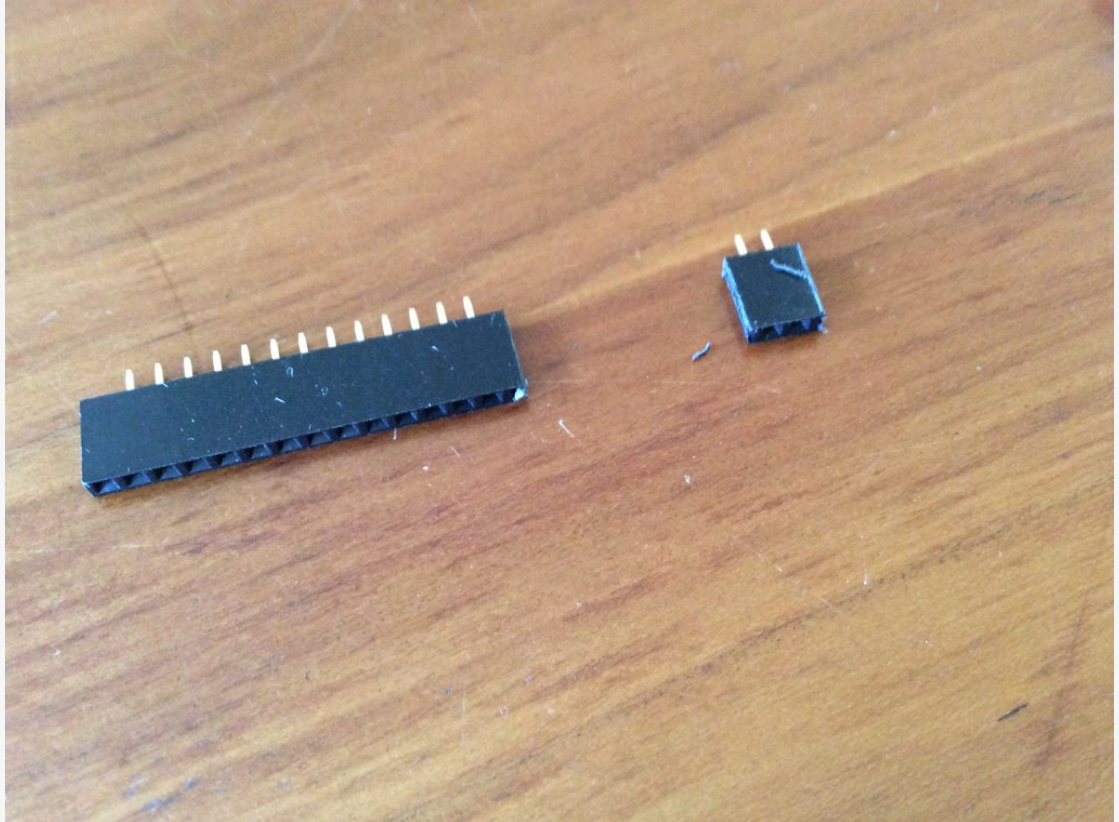
Location: Russia

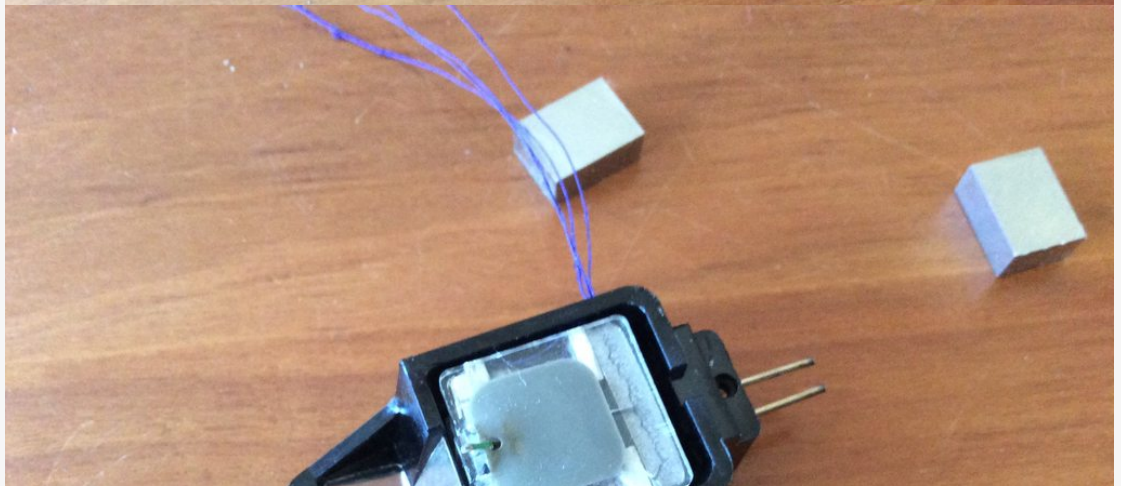
Posts: 195

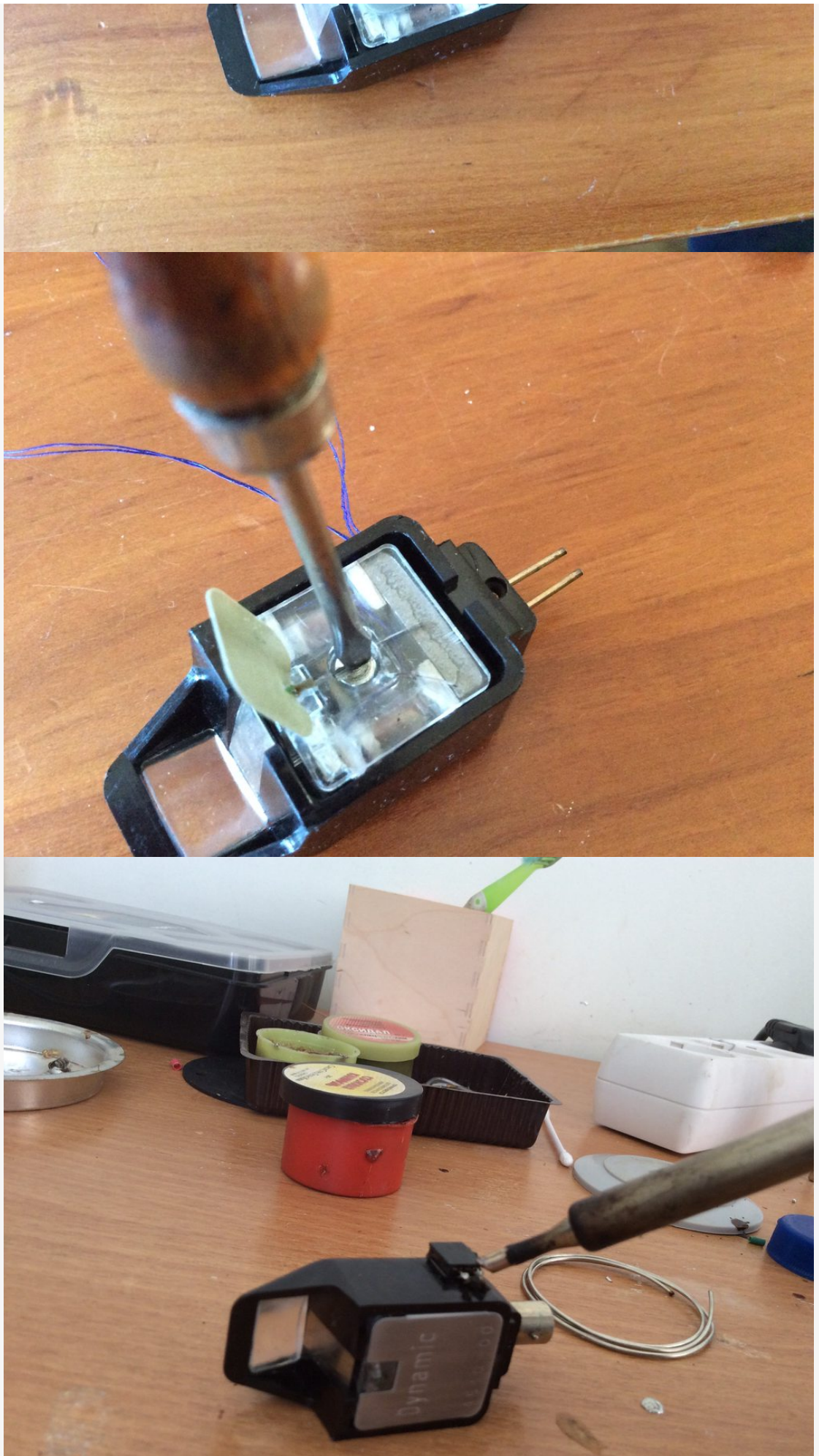
**Re: Neumann DST copy???**

« Reply #183 on: September 30, 2018, 02:42:44 PM »

In fact, the alteration is over. Now you need to assemble and make a connector to power the electromagnets. Electromagnets are connected in parallel.







Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #184 on: September 30, 2018, 03:12:29 PM »

The work is done. Everything was very simple. Supply voltage of electromagnets is 8-12 V. pay attention to the temperature of electromagnets. If they strongly heat up, then it can cause destruction of plexiglass body. Keep in mind that the level of a signal of cartridges with electromagnets will be less, than a cartridge with a permanent magnet. Therefore add volume of sound, using the regulator of loudness of your amplifier. I wish you success in your creativity and a remarkable sound.



« Last Edit: October 03, 2018, 09:52:19 AM by Vintagepsych »

Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426



Re: Neumann DST copy???

« Reply #185 on: September 30, 2018, 07:38:50 PM »

Здравствуйте Юрий,

Thank you once again for sharing your extraordinary skills with us.
This is a real treasure.

Best regards.

Logged

Alexander.

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #186 on: September 30, 2018, 07:54:59 PM »

Hello Alexander! Thanks for the kind words. I really hope that there will be followers. After all, the gain in quality is very tangible!



« Last Edit: April 25, 2023, 04:31:56 PM by Vintagepsych »

Logged

Yuriy

FLHX

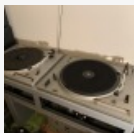
Member

☐ Offline

Age: 55

Location:
Saarbrücken /
Germany

Posts: 135

**Re: Neumann DST copy???**

« Reply #187 on: October 03, 2018, 12:48:28 PM »

Hello Yuriy,

great work!!! Since I own a couple of these cartridges, this would be an easier start than the copy of a Neumann DST...

Thank you very much for sharing your efforts...

Michael

« Last Edit: October 03, 2018, 10:39:21 PM by FLHX »

Logged

Michael

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #188 on: October 03, 2018, 07:01:36 PM »

Hi Michael I wish you success!



Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

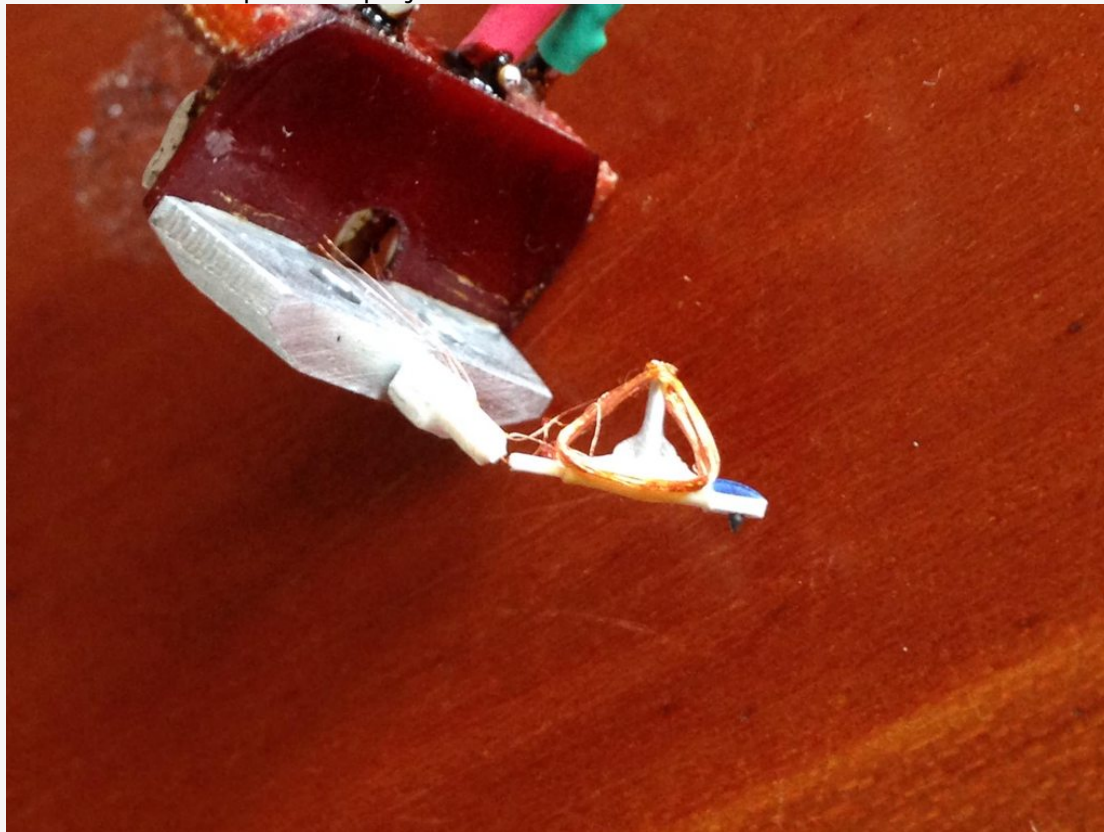
Posts: 195



Re: Neumann DST copy???

« Reply #189 on: October 03, 2018, 07:10:25 PM »

Let's return to the previous project. Plastic cantilever - it was a bad idea.



« Last Edit: December 31, 2018, 03:18:50 PM by Vintagepsych »

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

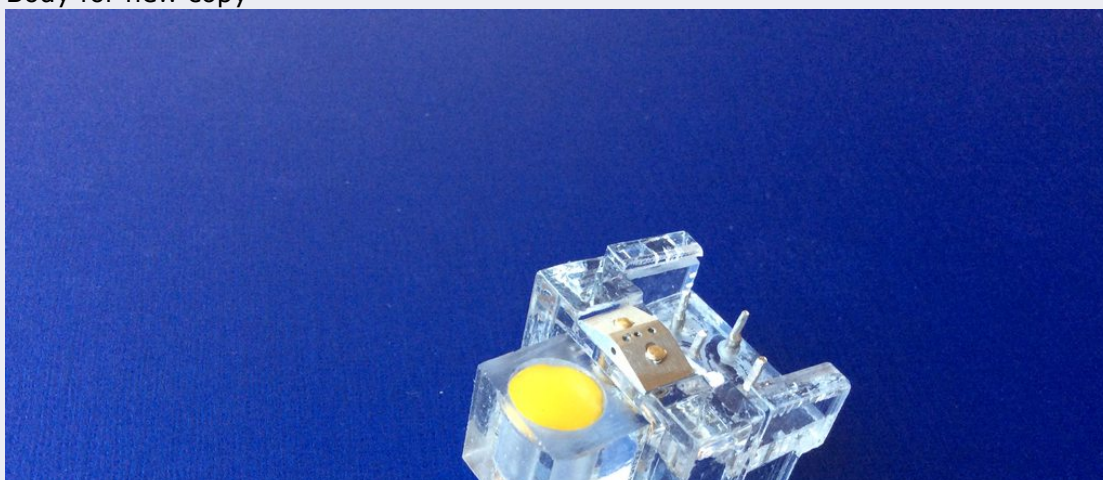
Posts: 195




Re: Neumann DST copy???

« Reply #190 on: October 13, 2018, 06:21:48 AM »

Body for new copy





 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

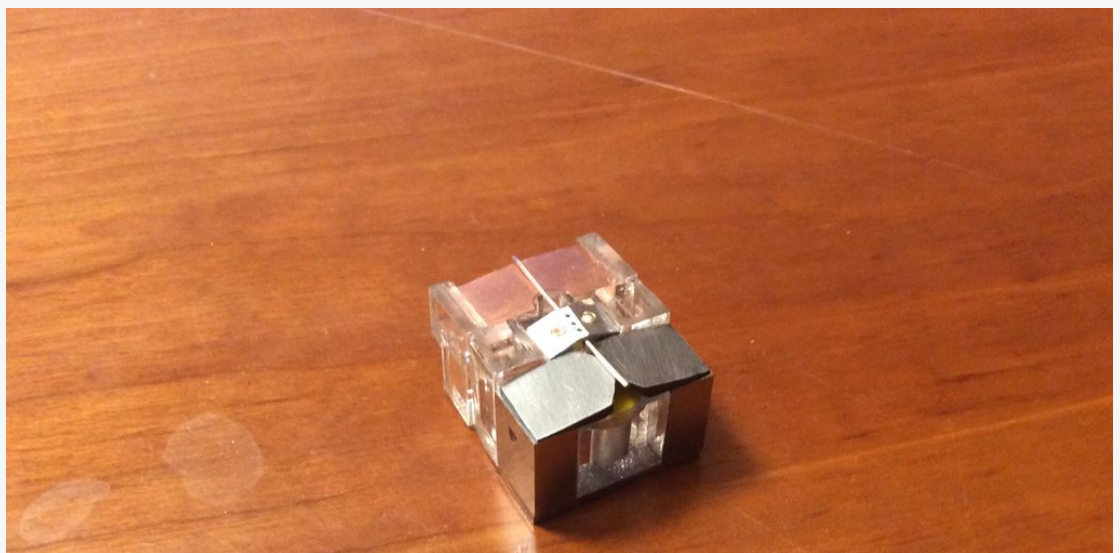
Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #191 on: October 15, 2018, 07:03:33 PM »





Magnet system



Headshell



Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

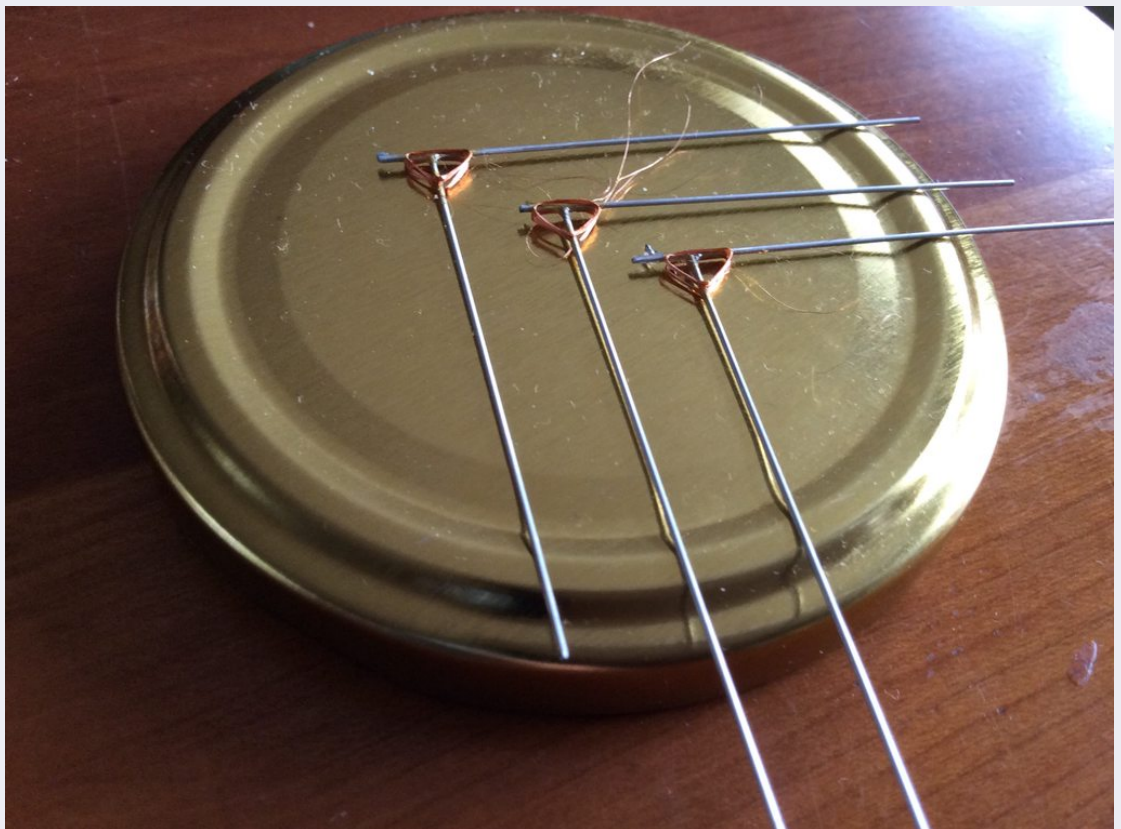
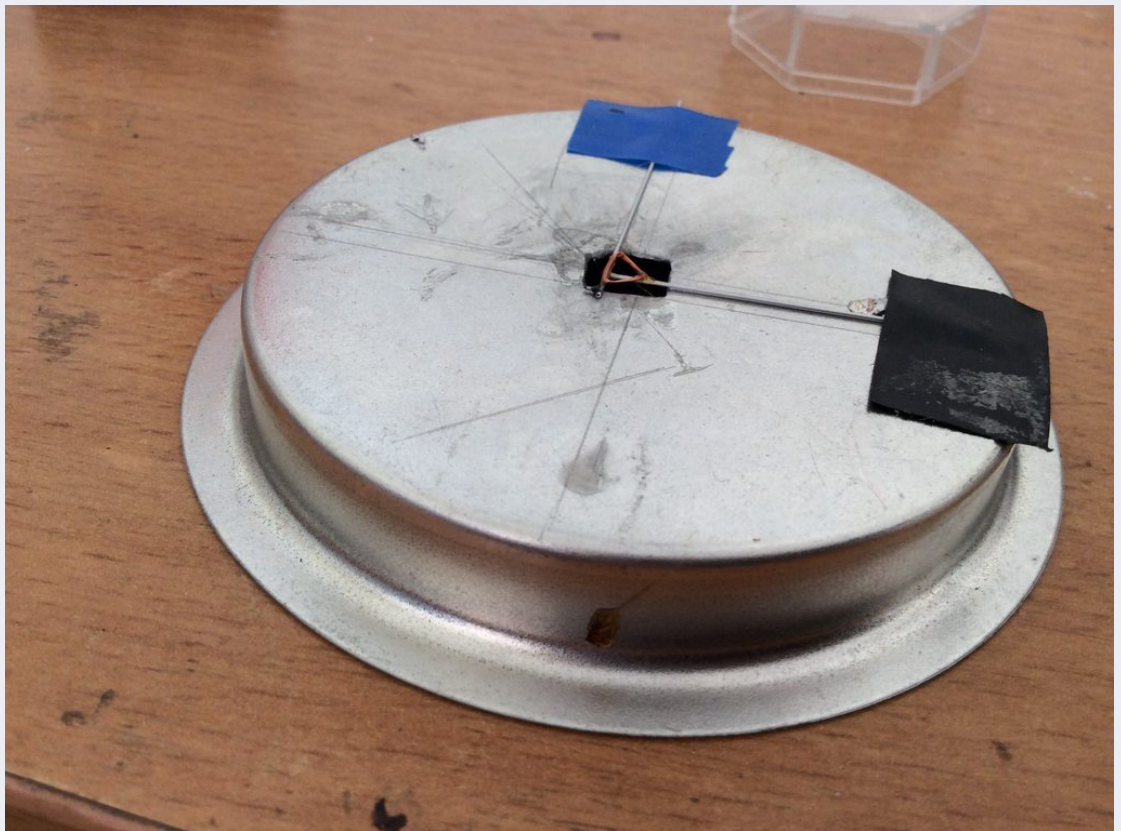


Re: Neumann DST copy???


« Reply #192 on: October 17, 2018, 11:10:12 AM »

Work is continued





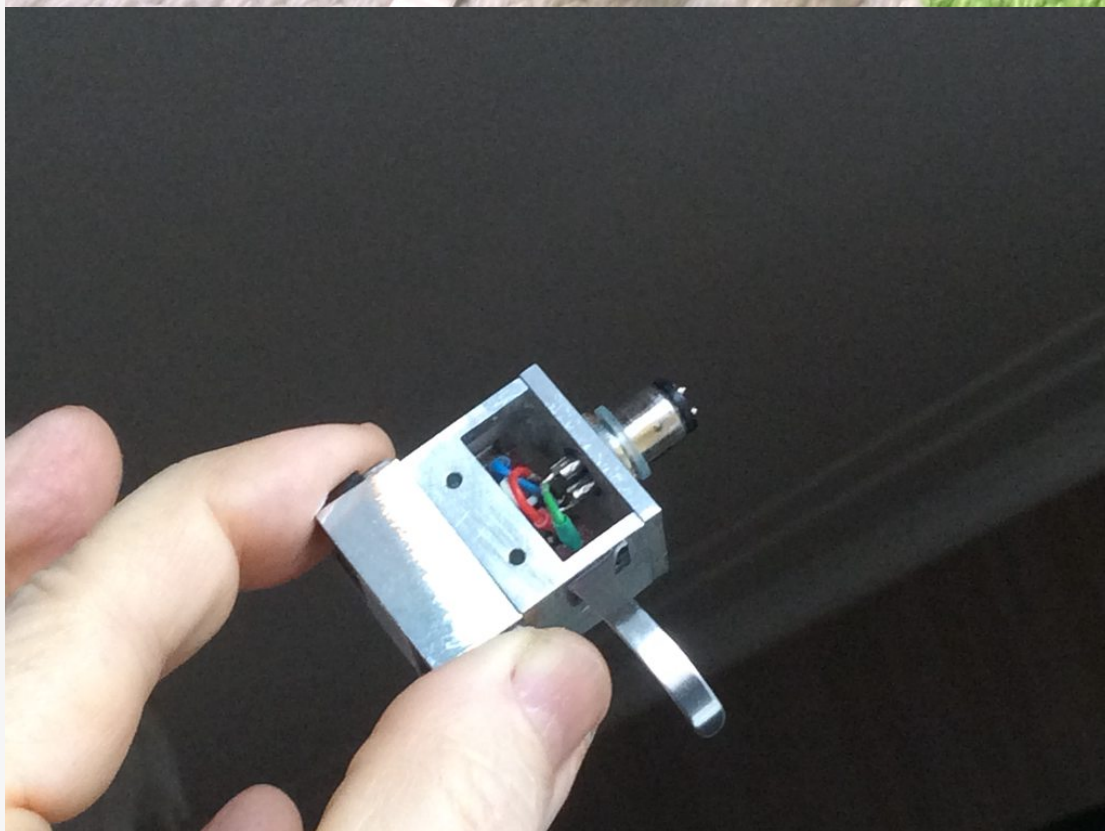
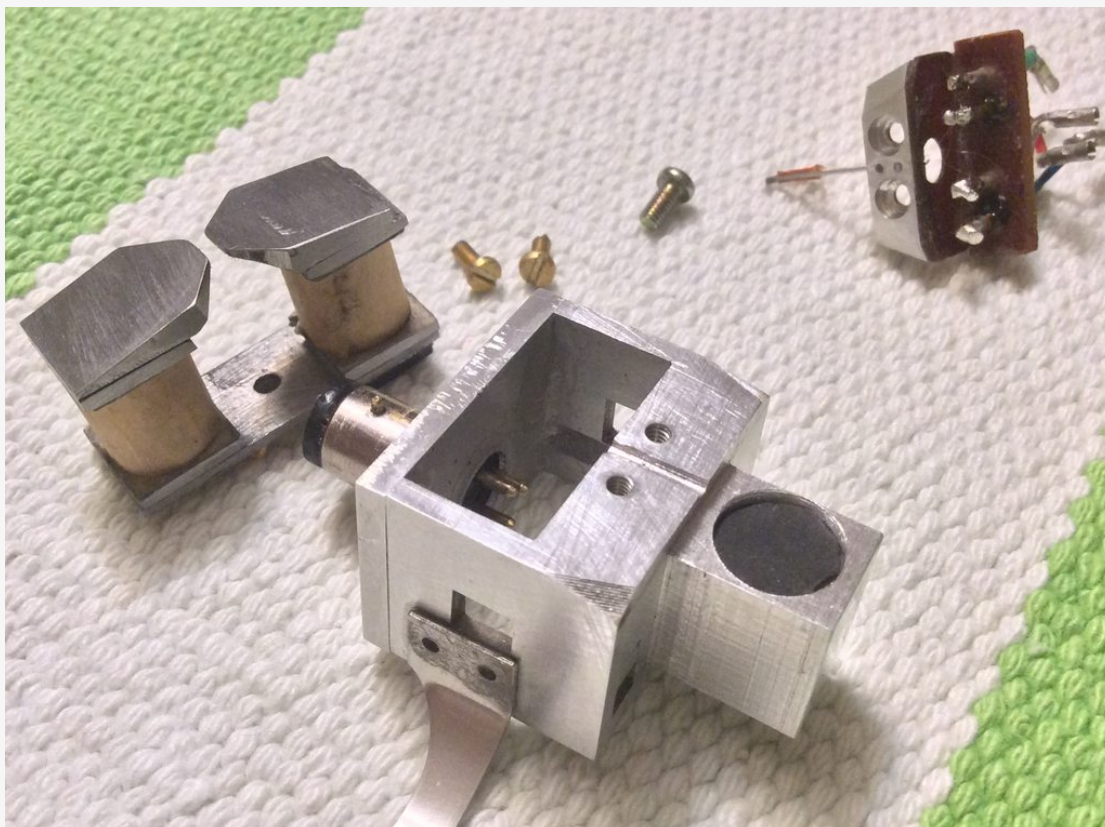
« Last Edit: December 17, 2018, 06:25:56 PM by
Vintagepsych »

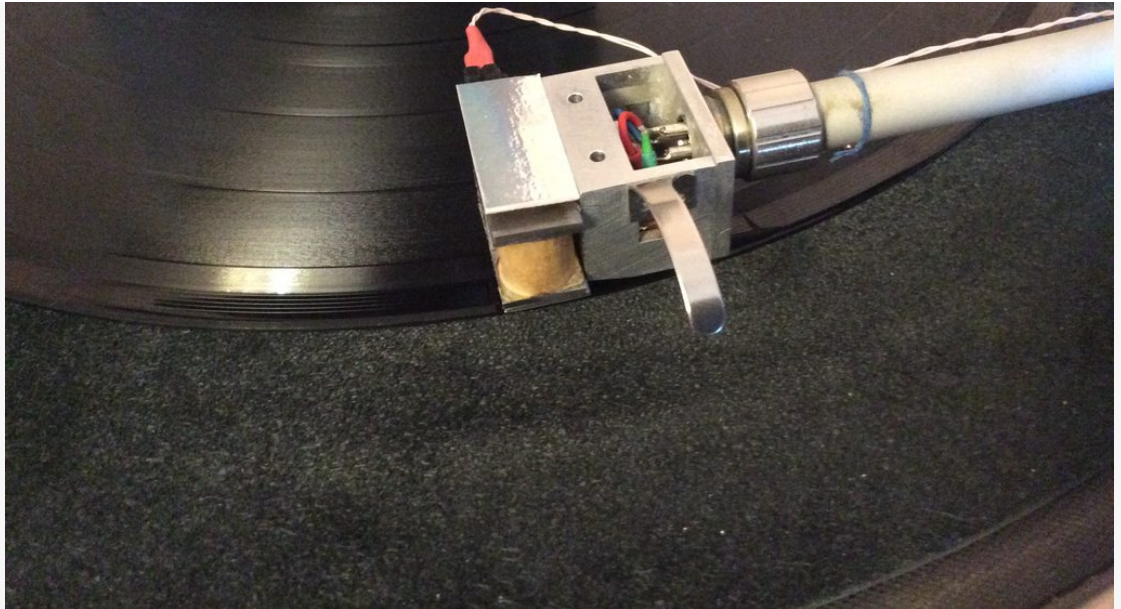
 Logged

Yuriy



Work on the previous project is complete. Instead of the broken plastic cantilever aluminum is established.





« Last Edit: May 20, 2023, 03:34:50 PM by
Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

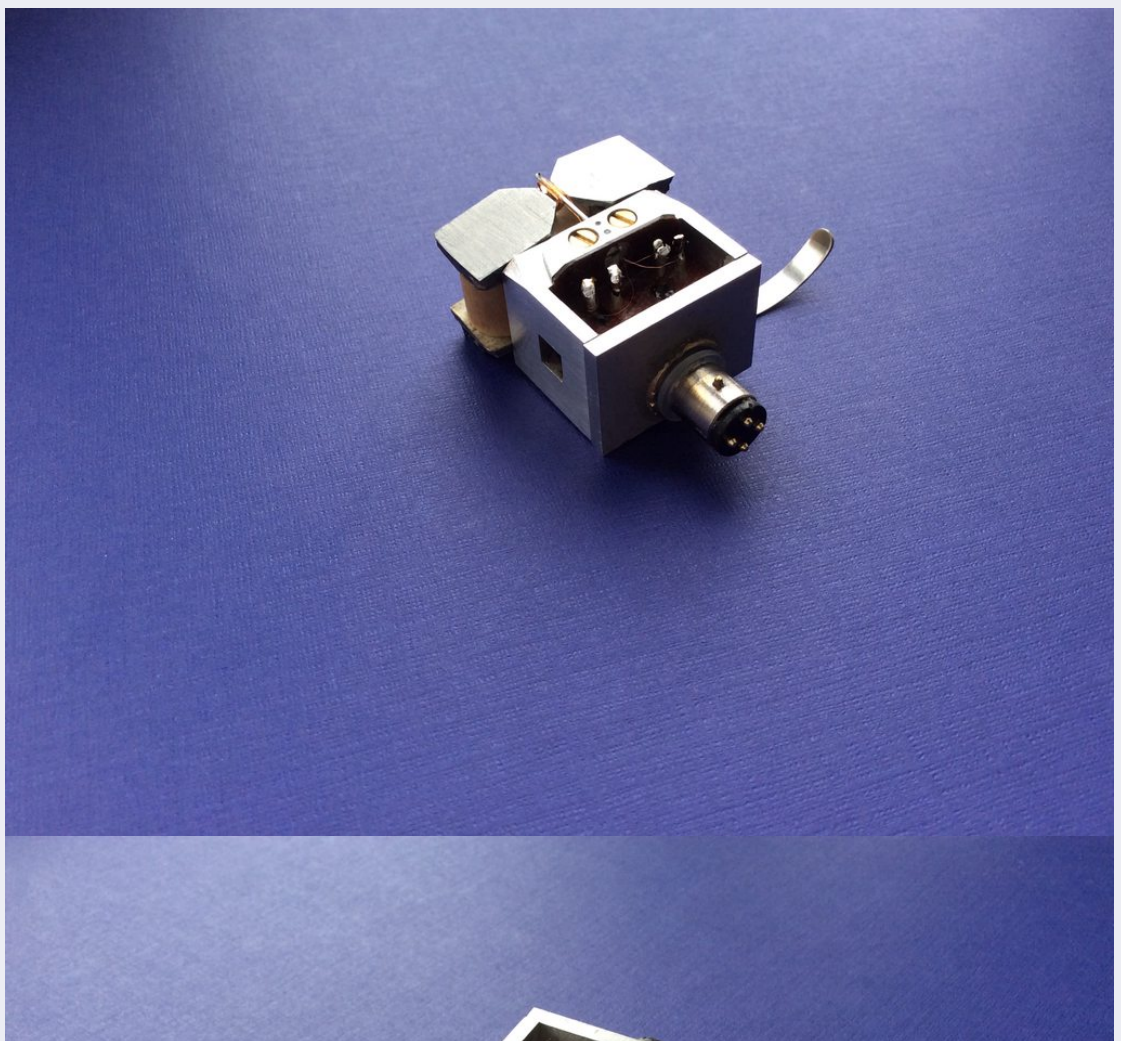
Location: Russia

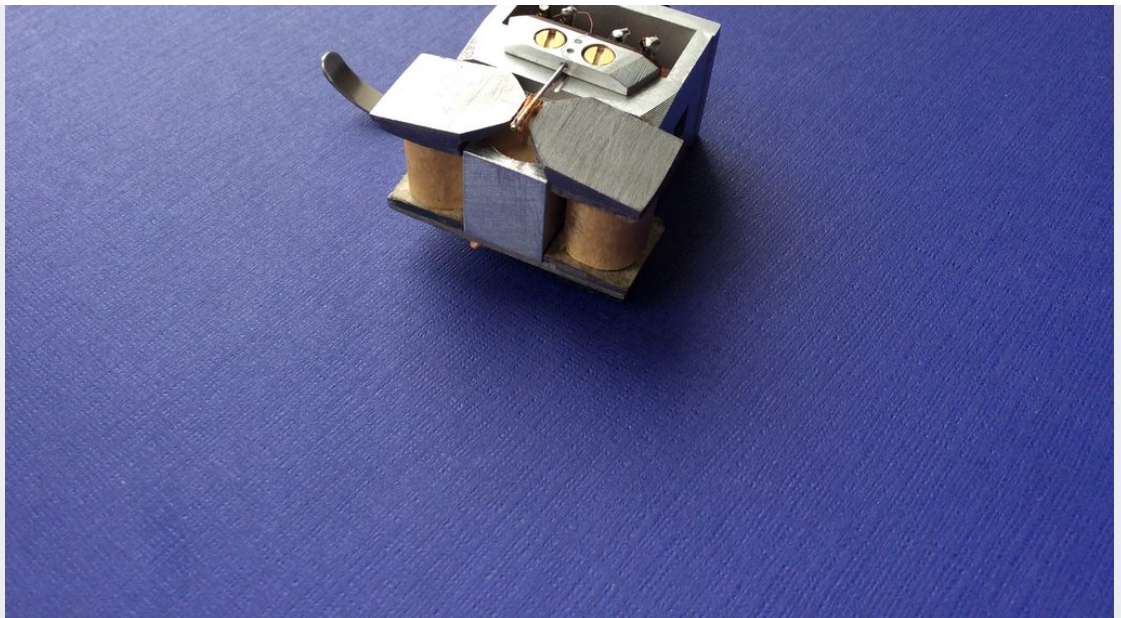
Posts: 195

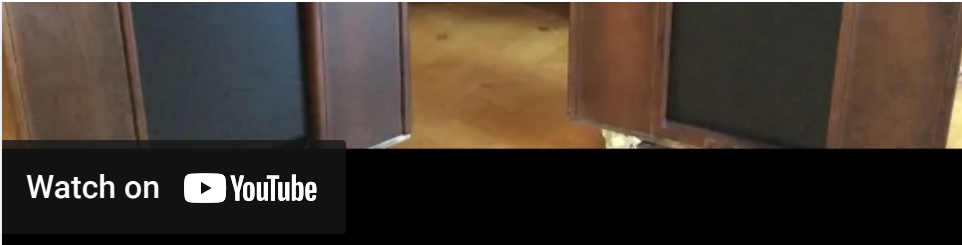


Re: Neumann DST copy???


« Reply #194 on: October 26, 2018, 10:19:13 AM »







« Last Edit: May 18, 2023, 05:39:52 PM by
Vintagepsych »

 Logged

Yuriy

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Author

Topic: Neumann DST copy??? (Read 39315 times)

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« **Reply #195** on: October 26, 2018, 05:33:04 PM »

Hi Юра,

Can you please describe the sonic difference between the Alnico magnets based Neuman copy and electro feeded coils based cartridge?

Obviously both philosophies has their pros and cons, but which one you like better and why.

I am also curious about your experience with TiNiCo (Titanium Nickel and Cobalt) magnets? I have sourced a big TiNiCo magnet years ago and it was used with a great success in some Stanton cartridges.

Great pictures again.
Thanks.

Logged

Alexander.

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« **Reply #196** on: October 26, 2018, 05:55:56 PM »

да простят меня немецкие товарищи за мой французский, но это можно описать только фразой

"дас ист фантастишь" ! 🤔

Logged

Andrey

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,



Re: Neumann DST copy???

« **Reply #197** on: October 26, 2018, 06:28:15 PM »

Вундеба!

Alexander.

Vintagepsych

Member



☐ Offline


Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #198 on: October 27, 2018, 05:08:59 AM »

Alexander! Never I worked with TiNiCo magnets. If there is any experiment on application of these magnets, please, share.

 Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426




Re: Neumann DST copy???

« Reply #199 on: October 27, 2018, 07:00:52 PM »

Hello Юpa.

As mention previously the alloy consists of Titan, Nickel and Cobalt. Cobalt accounts for 28% of it....didn't remember the rest. But it is expensive alloy and also extremely difficult to work with as the Titan substitutes the Aluminum as a bonding component. What I know is that a local guy use it for Headphones modifications and also for some phono cartridges. I have a Stanton modified by him (Tinico magnet inside) and the sound is so much better then the original magnet. The crystal structure of the Tinico is also very much different then Alnico.

That is why I wonder have you ever test it? The Tinico magnets have been sourced from Russia. Were used in some medical machines and also in space shuttle equipment.

 Logged

Alexander.

Vintagepsych

Member



☐ Offline


Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #200 on: October 27, 2018, 07:24:21 PM »

Alexander! Thanks for information. It is very interesting. If I have such magnets, I will surely be played with them.

 Logged

Yuriy

Paul

Member



☐ Offline

Location: Auckland,
New Zealand
Posts: 1,590



Re: Neumann DST copy???

« Reply #201 on: October 28, 2018, 08:10:31 AM »

Quote from: Alexandro on October 27, 2018, 07:00:52 PM

Hello Юpa.

As mention previously the alloy consists of Titan, Nickel and Cobalt. Cobalt accounts for 28% of it....didn't remember the rest. But it is expensive alloy and also extremely difficult to work with as the Titan substitutes the Aluminum as a bonding component.

I wonder if the TINICO magnet component ratios are the same as Philips TICONAL magnets? Philips used a mix of Titanium, Nickel, Cobalt and Aluminium instead of the normal Alnico mixture.

Alexandro

Member



Offline

Age: 46

Location: Sofia,
Bulgaria

Posts: 426

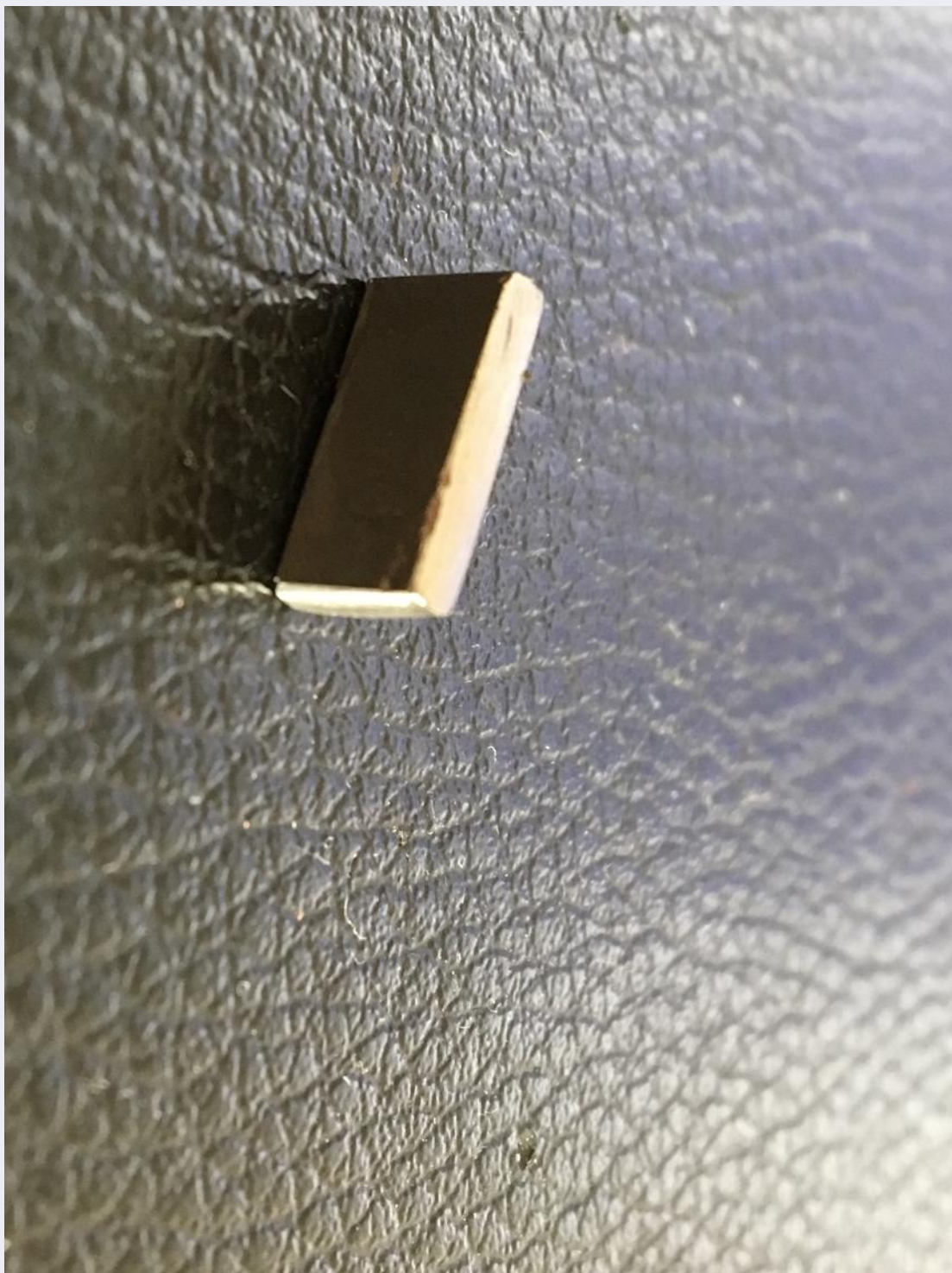


Re: Neumann DST copy???

« Reply #202 on: October 28, 2018, 11:20:52 AM »

I can't really say.

But here is a picture of a TiNiCo magnet, just before a final filing and installed into a Stanton 680.



I am not sure if TICONAL is the same as TiNiCo as while TICONAL is an alloy of Iron, Nickel, Aluminium & Cobalt, TiNiCo does not have Aluminum at all.

Alexander.

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #203 on: October 28, 2018, 12:15:06 PM »

Alexander! What is dimensions of this magnet?

Logged

Yuriy

Alexandro

Member

☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426

**Re: Neumann DST copy???**

« Reply #204 on: October 28, 2018, 12:50:59 PM »

It is 13mm X 7mm X 2,5mm.

Was extracted from a big block, following the orientation.

Just called the guy from whom I obtained the magnets and he told me that this particular magnets were extracted from an old physiotherapy machines, made in the 50-thies in USSR. Such could also be found in the old Russian microwave ovens.

Logged

Alexander.

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #205 on: October 28, 2018, 01:24:59 PM »

Magnets of original Neumann DST have the sizes 13:10:4. Thus, having a little changed a body design, it is possible to use the shown TiNiCo magnets.

What do you know about platinum magnets?

Logged

Yuriy

Alexandro

Member

☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426

**Re: Neumann DST copy???**

« Reply #206 on: October 28, 2018, 06:39:34 PM »

I am trying for the last two months to extract a bigger piece, properly oriented for trying to accomplish your work...sadly I fail....either the piece I managed to cut without destroying it is not properly oriented or I break it while taking it into shape. The smaller- the easier. For now my success is zero.

What do I know about platinum magnets? Unfortunately nothing....didn't even knew that such exists.

Logged

Alexander.

Vintagepsych

Member

☐ Offline**Re: Neumann DST copy???**

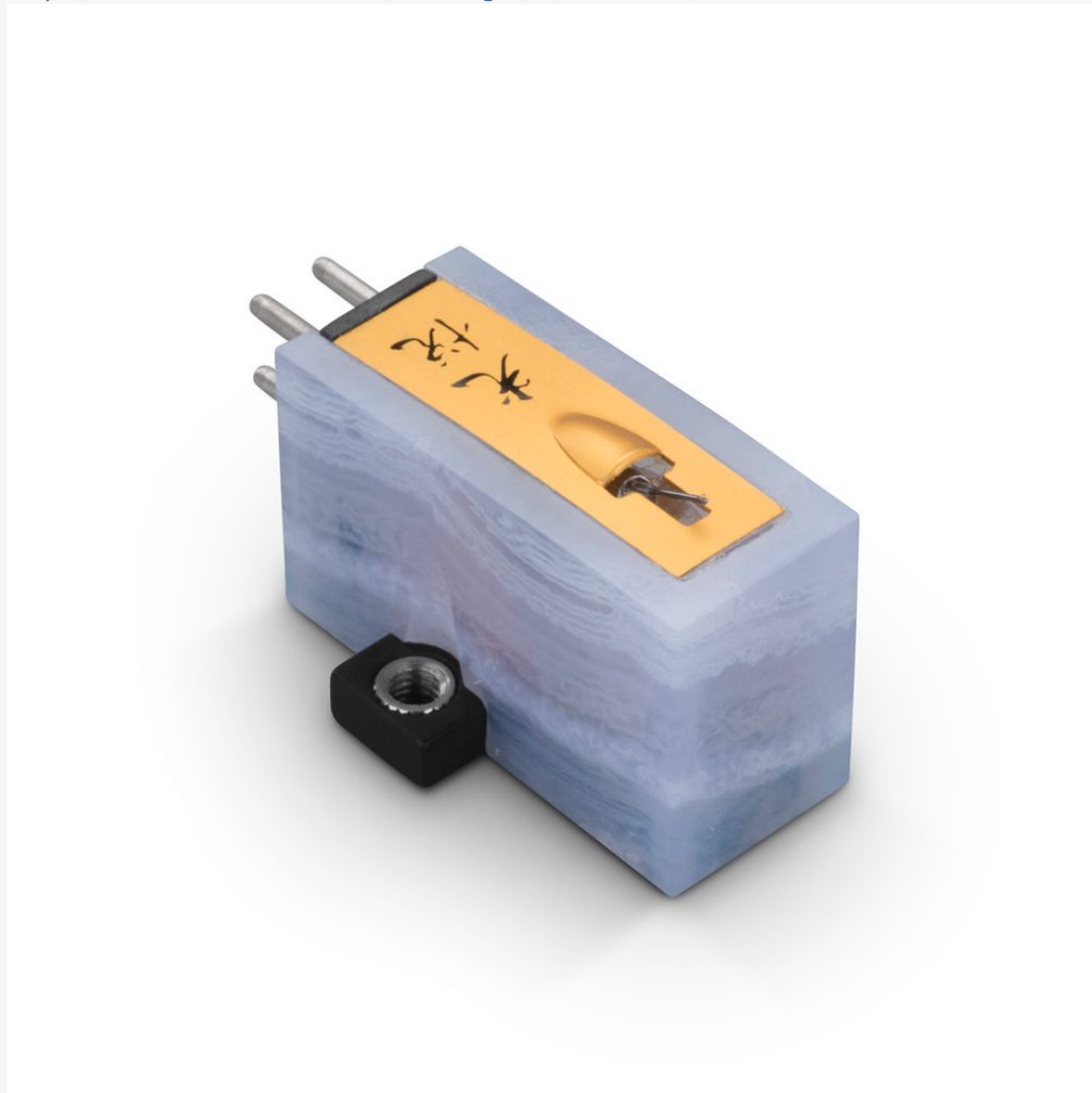
« Reply #207 on: October 28, 2018, 09:42:36 PM »

I saw on ebay different magnets that are suitable for the project. koetsu uses platinum

Age: 74
Location: Russia
Posts: 195

magnets in its top cartridges

<http://www.koetsuaudio.com/cartridges/#/blue-lace/>




« Last Edit: October 28, 2018, 10:47:21 PM by Vintagepsych »

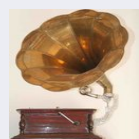
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Yuriy

wer
Member

 Offline

Location: Catalunya
Posts: 9,120




Re: Neumann DST copy???

« Reply #208 on: October 29, 2018, 03:53:33 PM »


Quote from: Vintagepsych on October 28, 2018, 09:42:36 PM

I saw on ebay different magnets that are suitable for the project. koetsu uses platinum magnets in its top cartridges

Calling them platinum magnets is not quite fair. It is an alloy with 77% Co and 23% Pt.

 Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

Alexandro
Member




Re: Neumann DST copy???

« Reply #209 on: October 29, 2018, 07:20:00 PM »

☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426

Found a very informative material for the so called Platinax magnets:

[Link](#)

 Logged

Alexander.

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Author

Topic: Neumann DST copy??? (Read 39316 times)

pde2000

Member

☐ Offline

Age: 55

Location: upminster

Posts: 2,715



GB

**Re: Neumann DST copy???**« **Reply #210 on:** October 29, 2018, 07:29:32 PM »**Quote from: wer on October 29, 2018, 03:53:33 PM**

Calling them platinum magnets is not quite fair. It is an alloy with 77% Co and 23% Pt.

77%Pt 23%Co by weight 1:1 atomic ratio alloy. atomic mass of cobalt is 59 and atomic mass of platinum is 195.

Interesting material, never heard of it before. Very expensive.

Logged

Paul in the ning nang nong, where the cows go bong, and the teapots jibber jabber joo.

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**« **Reply #211 on:** October 30, 2018, 04:43:58 AM »

thanks, Alexander for very useful information! Interestingly: why these magnets are used only by Koetsu?

Logged

Yuriy

Alexandro

Member

☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426

**Re: Neumann DST copy???**« **Reply #212 on:** October 30, 2018, 07:45:06 AM »

To justify the price of the top line models? 🙄

Logged

Alexander.

Vintagepsych

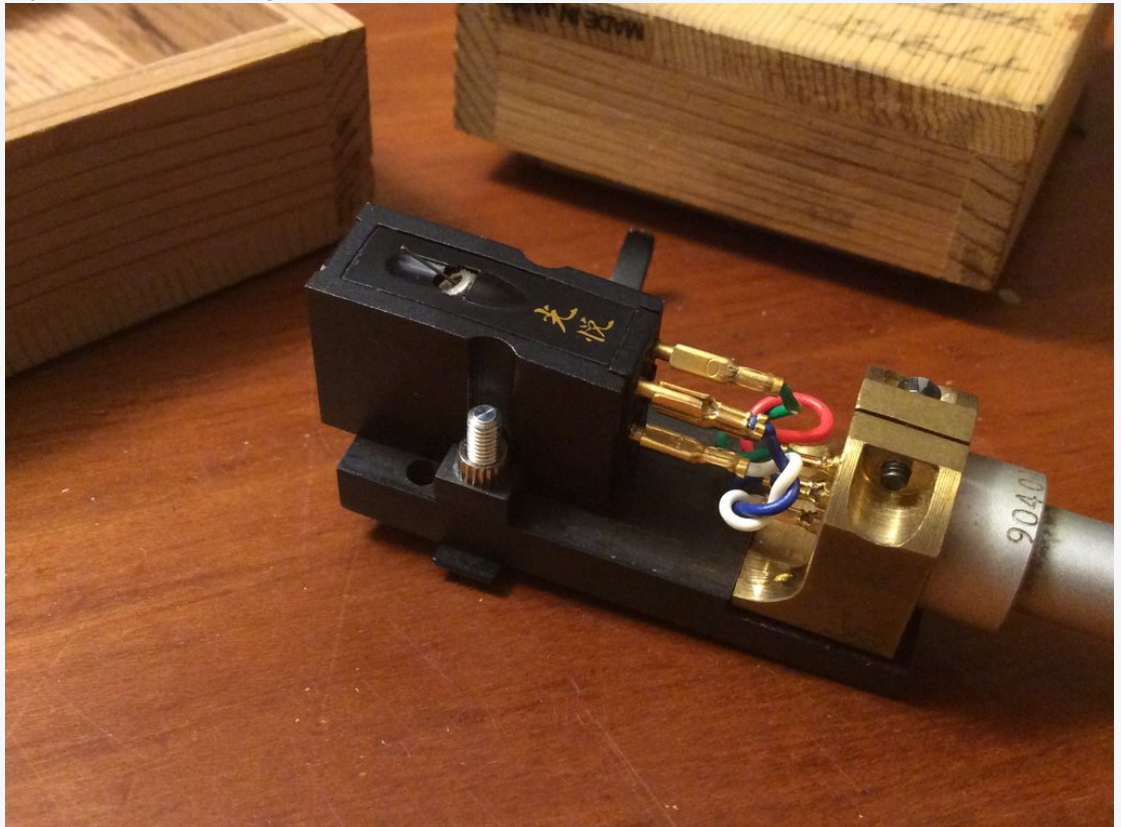
Member

**Re: Neumann DST copy???**« **Reply #213 on:** November 20, 2018, 08:59:04 PM »

Offline

Age: 74
Location: Russia
Posts: 195

My Black Koetsu Sugano. I assume that in it alnico.



Yuriy

Vintagepsych

Member



Offline

Age: 74

Location: Russia

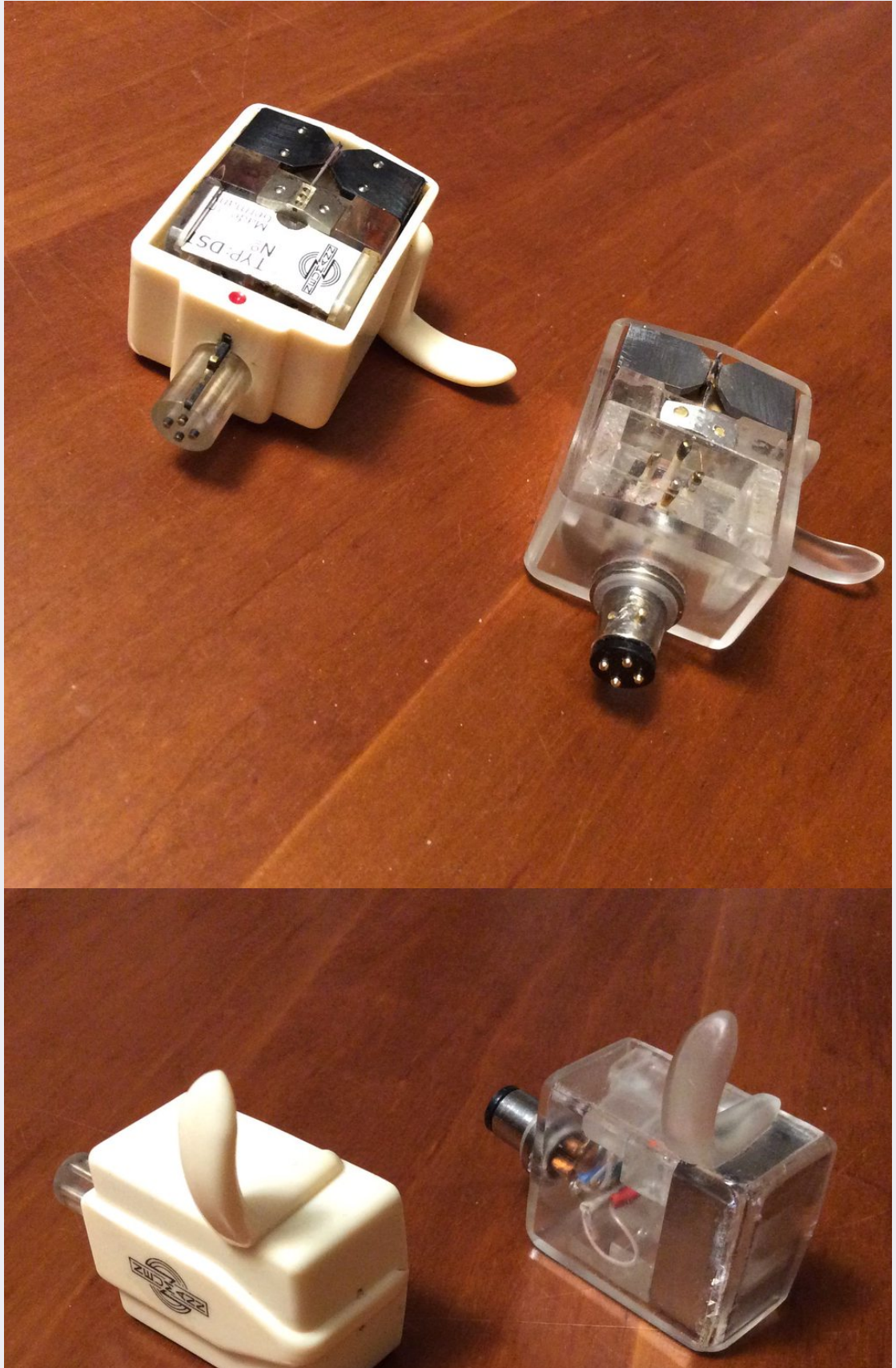
Posts: 195




Re: Neumann DST copy???

« Reply #214 on: November 23, 2018, 03:57:09 PM »

I tried to copy a shell. It turned out not absolutely well.





 Logged

Yuriy

Alexandro

Member



☐ Offline

Age: 46
Location: Sofia,
Bulgaria
Posts: 426



Re: Neumann DST copy???

« Reply #215 on: November 24, 2018, 09:22:07 AM »

...and I think it turned out great.

 Logged

Alexander.

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195




Re: Neumann DST copy???

« Reply #216 on: November 24, 2018, 09:40:52 AM »

the original shell has a complex shape. I have not found a way to make a perfect copy

« Last Edit: November 24, 2018, 09:48:47 AM by
Vintagepsych »

 Logged

Yuriy

reinderspeter

Administrator
Member



☐ Offline

Age: 61
Location: Amsterdam
Posts: 6,621



Re: Neumann DST copy???

« Reply #217 on: November 24, 2018, 01:13:30 PM »

Quote from: Vintagepsych on November 24, 2018, 09:40:52 AM

the original shell has a complex shape. I have not found a way to make a perfect copy

3d print it?

 Logged

Peter

PTP Audio for Lenco based idler drive Turntables, Chipamps and Power Controllers.



Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #218 on: November 24, 2018, 05:58:22 PM »

A few years ago on 3-D printer I did a body for mono-cartridge Ortofon. The result was not pleasant to me.

Logged

Yuriy

Alexandro

Member

☐ Offline

Age: 46

Location: Sofia,

Bulgaria

Posts: 426

**Re: Neumann DST copy???**

« Reply #219 on: November 24, 2018, 06:21:18 PM »

3d printing technology has evaluated a lot for the last few years. Probably you could give it a shot again.

But I do not believe the plastics is among the best materials for this purpose. Probably you could try to replicate the housing using wood?

Logged

Alexander.

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #220 on: November 24, 2018, 06:55:19 PM »

Thanks, Alexander. I agree. It is possible to apply different materials: wood, ceramics, plastic. A question how many work and money it will demand. For me plexiglass was the most convenient material.



« Last Edit: March 01, 2019, 06:04:59 AM by Vintagepsych »

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

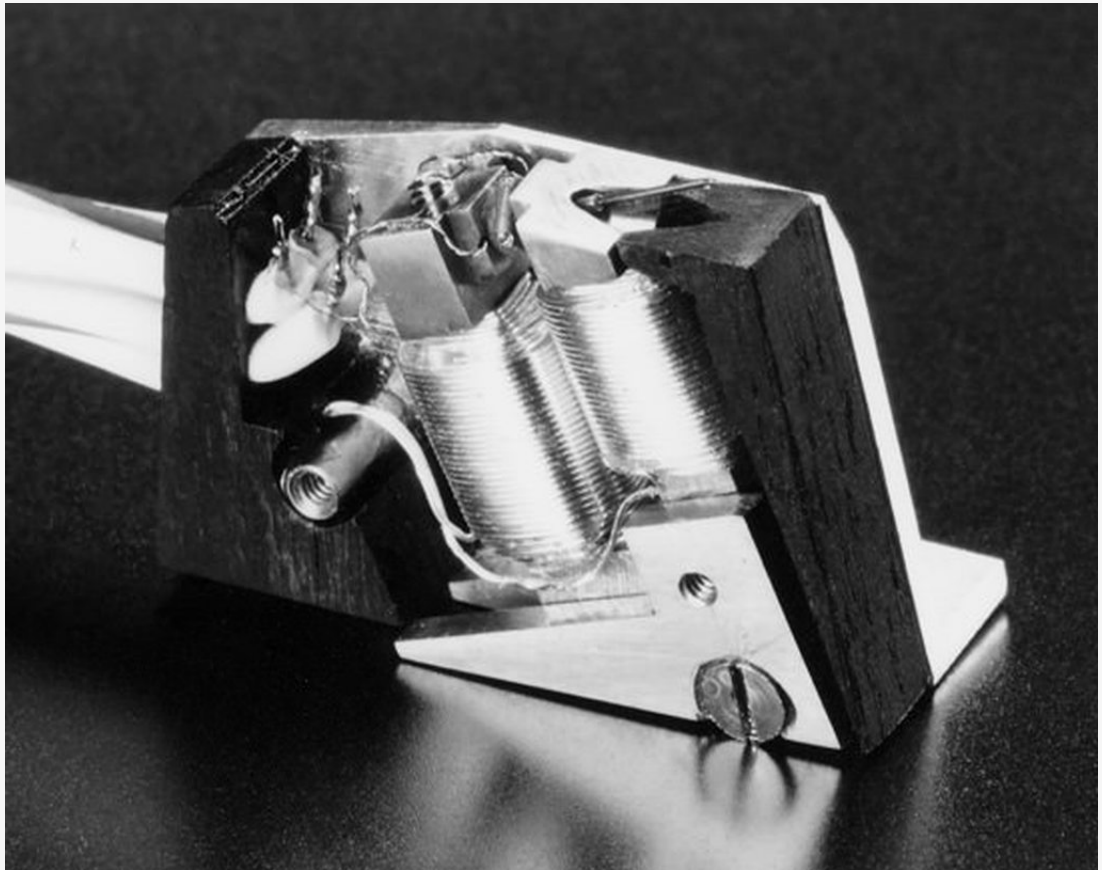
Posts: 195



Re: Neumann DST copy???

« Reply #221 on: November 25, 2018, 06:30:15 AM »

Field coil cartridge Audio Note IO LTD, designed ingenious Kondo. All very rational, culturally and elegantly, as all creations of the Great Master!



« Last Edit: December 17, 2018, 06:36:08 PM by Vintagepsych »

Logged

Yuriy

Delta667

Member



Re: Neumann DST copy???

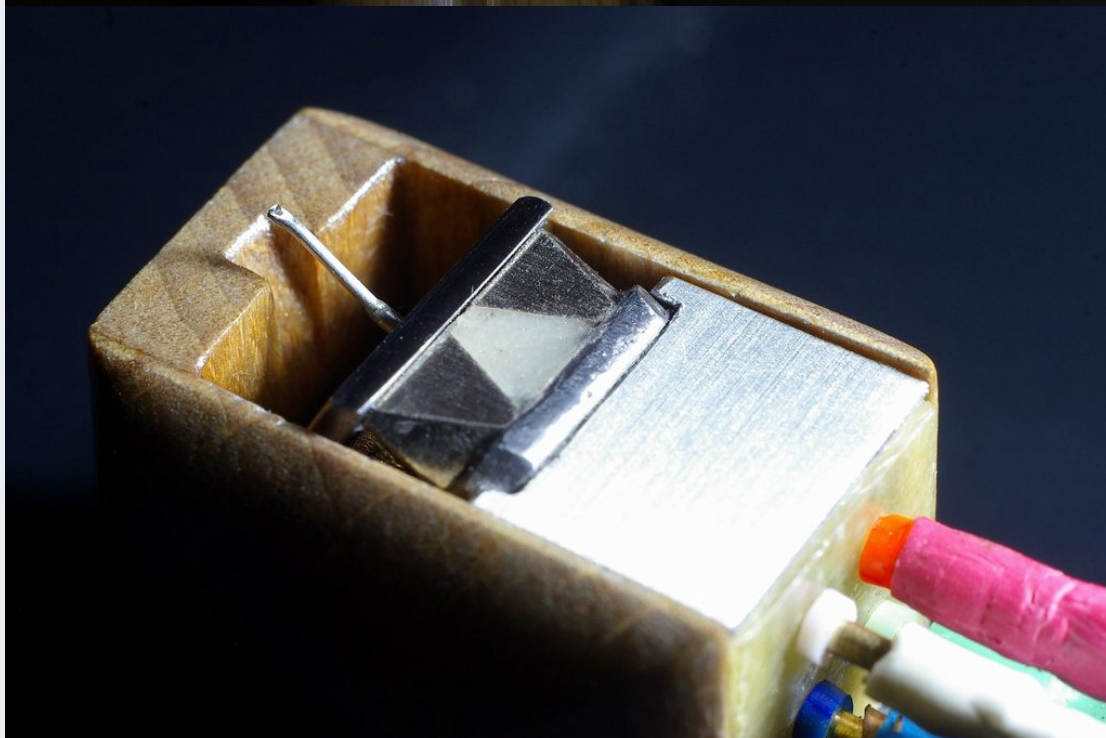
« Reply #222 on: December 21, 2018, 06:28:26 PM »

☐ Offline


Location: Vladivostok
Posts: 74

sculptor of sound

Юра, привет !))



my new creation))
Delta 667 Level 2

 Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #223 on: December 21, 2018, 08:47:02 PM »

Hi, Dima. Great job! What is level 2?

 Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok

Posts: 74


sculptor of sound



Re: Neumann DST copy???

« **Reply #224 on:** December 22, 2018, 05:02:10 AM »

It's like in computer games, after passing the 1st level, go to the second more difficult))

 Logged

best regards

Dmitry

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Author

Topic: Neumann DST copy??? (Read 39317 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #225 on: December 22, 2018, 07:21:00 AM »

There are features in a design?

Logged

Yuriy

Delta667

Member



☐ Offline

Location: Vladivostok

Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #226 on: December 22, 2018, 09:04:38 AM »

Of course have ! Optimization and adaptation for the standard consumer.
The generator moved closer to the center compared to Delta-3.
The coil resistance is 3.0 ohms. Output 0.6mV

Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #227 on: December 22, 2018, 09:57:58 AM »

Ok. It is fine! Why aluminium cantilever? Part of new design?

« Last Edit: December 31, 2018, 03:21:55 PM by
Vintagepsych »

Logged

Yuriy

Delta667

Member



☐ Offline



Re: Neumann DST copy???

« Reply #228 on: December 22, 2018, 10:35:58 AM »

The aluminum console is part of my endless experiments and searches in the world of

Location: Vladivostok
Posts: 74

sculptor of sound

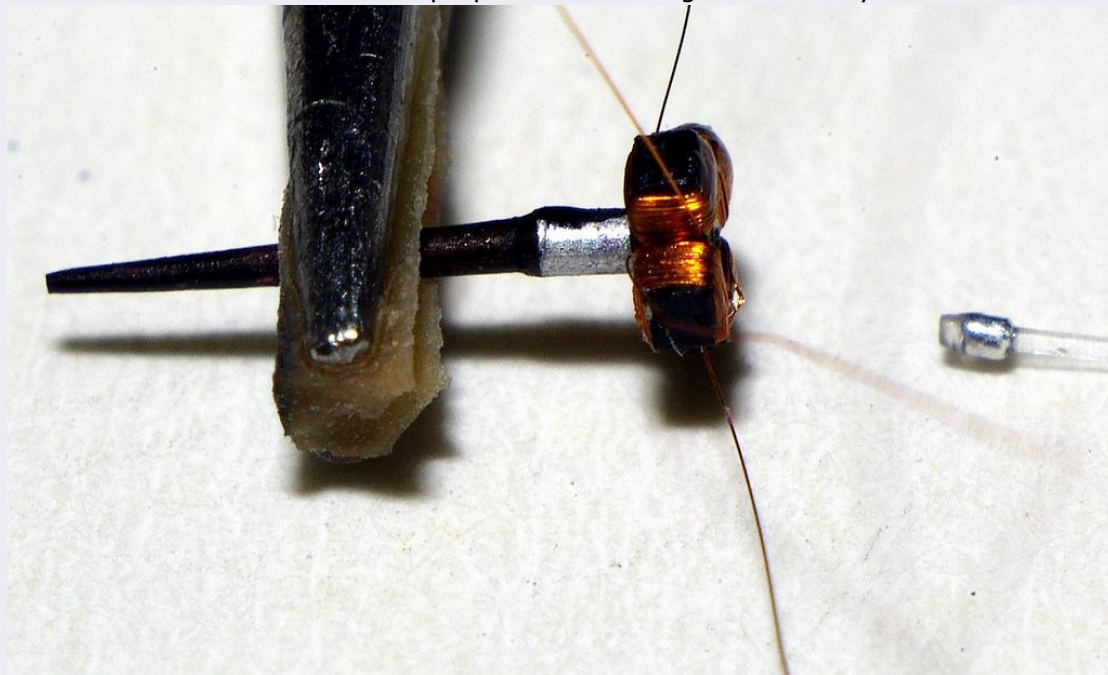
sound.

Stylus, by the way Linear Contact (Shibata)))

I definitely back to the cactus in its new incarnation - natural carbon.

This is what Mr. "Accident" kindly gave me.

This is a new material with new properties and I began to actively use it.



 Logged

best regards
Dmitry

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #229 on: December 22, 2018, 01:22:56 PM »

Thank Dima. Very interesting. Thank you for informing about your new projects.

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195

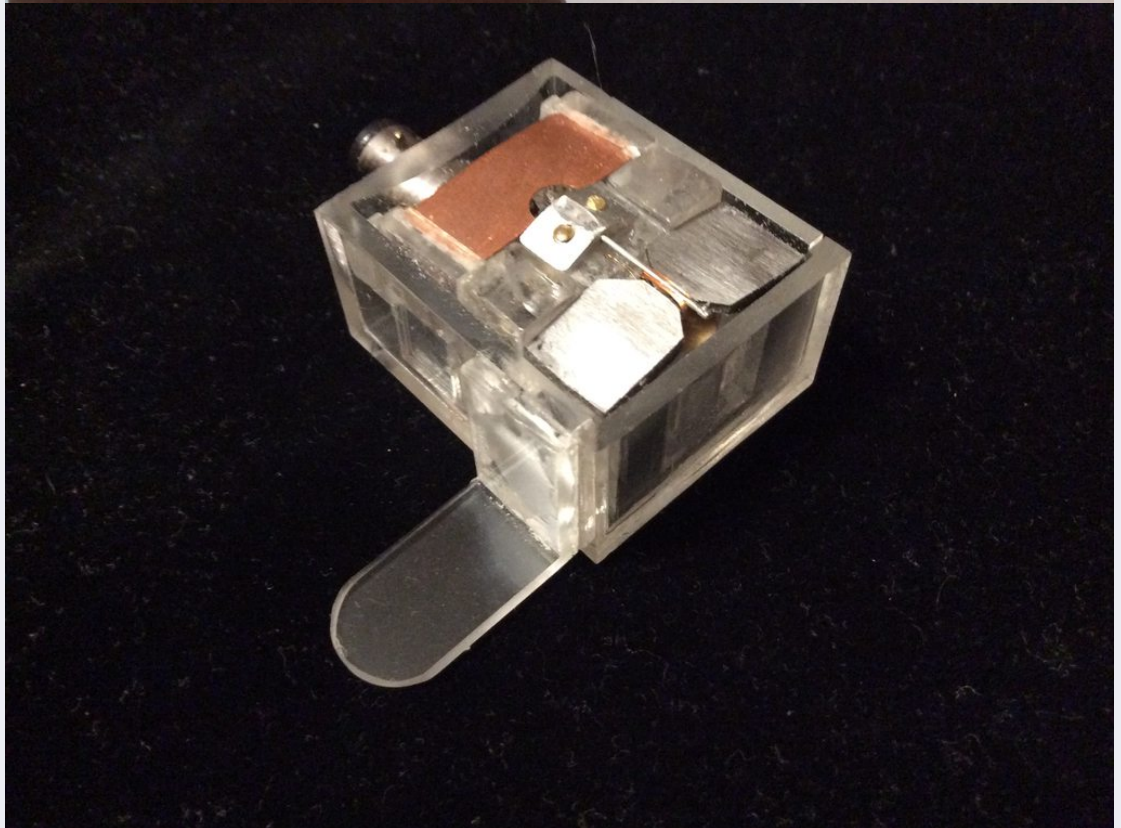
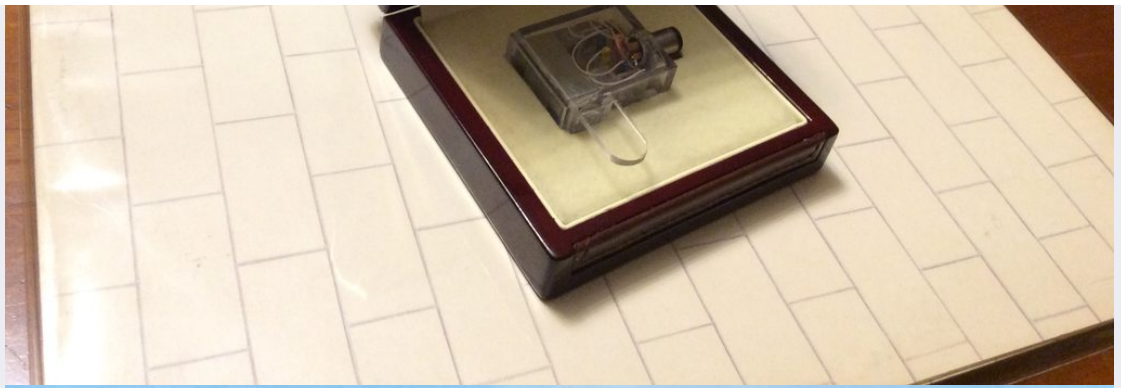


Re: Neumann DST copy???

« Reply #230 on: December 30, 2018, 10:15:30 PM »


With new 2019!







« Last Edit: February 05, 2019, 02:08:14 PM by Vintagepsych »

 Logged

Yuriy

yeyunlong

Member



☐ Offline

Posts: 2



Re: Neumann DST copy???

« Reply #231 on: January 26, 2019, 04:06:28 PM »

How many turns of copper wire did you use for each of the coil triangles ?

What kind of output are you getting ? 🤖

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #232 on: January 26, 2019, 05:10:34 PM »

Hi Yeyunlong. Thanks for your question. I did two versions of coils. 40 rounds and 50 rounds. Both options perfectly sound. As for output voltage, with Alnico magnets it practically same as at the original, and with an electromagnet is 5 db less.

« Last Edit: May 19, 2023, 08:01:07 AM by Vintagepsych »

 Logged

Yuriy

Andrew.R

Member



☐ Offline

Location: Wakefield,

England

Posts: 704



Re: Neumann DST copy???

« Reply #233 on: January 27, 2019, 01:33:54 PM »

Do you sell these cartridges?



Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #234 on: January 27, 2019, 04:04:05 PM »

Sorry, these samples not for sale.

i placed detailed information, about production process. If you have a desire, you can independently make such cartridge, using my information

« Last Edit: January 12, 2023, 05:00:23 AM by Vintagepsych »

Logged

Yuriy

SteveM

Member

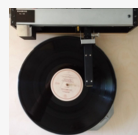


☐ Offline

Location: Dorval, QC,

Canada

Posts: 2,530



Re: Neumann DST copy???

« Reply #235 on: January 27, 2019, 04:50:51 PM »

Thank you for sharing, it's all beyond me but I admire your skills.

Logged

vinyl>modded L78>Pickering XV-15 w/DTL-2S>Rabco SL8e>Lehmann Black Cube w/PWX>Simaudio I-5>Totem Sttaf

- otherwise NAD 4300 or Arcam FMJ DV139

Andrew.R

Member



☐ Offline

Location: Wakefield,

England

Posts: 704



Re: Neumann DST copy???

« Reply #236 on: January 27, 2019, 07:46:13 PM »

Quote from: Vintagepsych on January 27, 2019, 04:04:05 PM

I placed detailed information, about production process. If you have a desire, you can independently make such cartridge, using my information.

I don't have your skills, or time. That's why I asked.

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #237 on: February 09, 2019, 06:30:52 AM »

S. Bankovskiy living to Gelendzhik (Russia) developed a unique system for reproduction of very old shellac





Watch on YouTube

« Last Edit: February 17, 2021, 11:31:58 AM by Vintagepsych »

Logged

Yuriy

yeyunlong

Member



☐ Offline

Posts: 2



Re: Neumann DST copy???

« Reply #238 on: February 16, 2019, 04:07:05 PM »

Hello, is the cantiliver inside of the hole have any kind of rubber damper ? 🙄

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #239 on: February 16, 2019, 08:05:49 PM »



« Last Edit: March 30, 2019, 07:00:28 PM by Vintagepsych »

Logged

Yuriy

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Author

Topic: Neumann DST copy??? (Read 39318 times)

Jay

Member
Member



☐ Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug, it's 'Lenco' James



Re: Neumann DST copy???

« **Reply #240** on: April 06, 2019, 04:44:22 PM »

Hi Yurly,

"I placed detailed information, about production process. If you have a desire, you can independently make such cartridge, using my information".

Can you place a link to this information please.

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



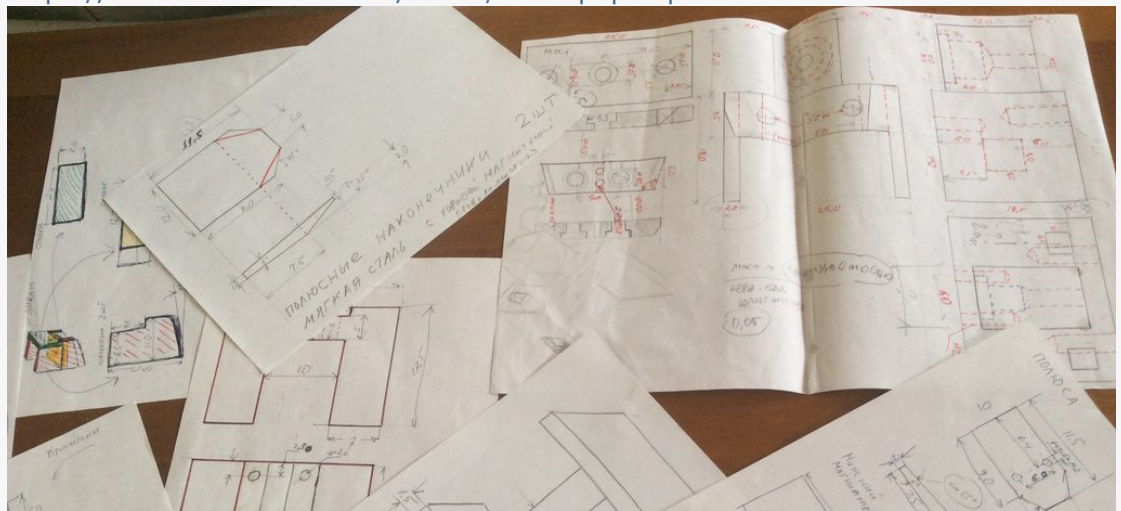
Re: Neumann DST copy???

« **Reply #241** on: April 06, 2019, 06:12:35 PM »

Hi Jay!

All here:

<https://www.lencoheaven.net/forum/index.php?topic=27407.0>





Unquenchable creative homebrew with the 70-year anniversary



Logged

Delta667

Member



☐ Offline

Location: Vladivostok
Posts: 74

sculptor of sound



Re: Neumann DST copy???

« Reply #245 on: May 27, 2019, 03:22:05 PM »

Juriy, accept my most sincere congratulations on Jubilee-70!))

Logged

best regards
Dmitry

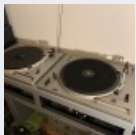
FLHX

Member



☐ Offline

Age: 55
Location:
Saarbrücken /
Germany
Posts: 135



Re: Neumann DST copy???

« Reply #246 on: May 29, 2019, 11:00:21 PM »

My congratulations too...

Logged

Michael

scooterpathe

Member



☐ Offline

Posts: 13



Re: Neumann DST copy???

« Reply #247 on: November 05, 2020, 01:08:48 AM »

Quote from: reinderspeter on November 24, 2018, 01:13:30 PM

3d print it?

Today, it's totally doable with a resin printer.

I made some for universal usage, but a Neumann could be done with precise dimensions.

Logged

stickmaker

Member



☐ Offline

Age: 58
Location: Liebethal
Posts: 273



Re: Neumann DST copy??? Platinum magnet alloys

« Reply #248 on: December 16, 2020, 06:03:10 PM »

Hi,
long time no read..
Because 'platinum magnets' popped up here, too.

To have reasonable magnetic force (in your permanent magnet) of course you need a ferromagnetic material, Nickel, Iron or Cobalt, as basis.

Koetsu is not using a nickel and/or cobalt based alloy, but an iron based one.



PtFe (not Teflon 🤖) was the alloy Koetsu uses in their top range 'Platinum' models. In some 'reports' with 70%Pt? (Seems way too much in my view). Whatever the mix is, the output level is lower than from 'regular' models.

If you google Platinum Iron magnet alloy many patents and mixtures appear. Even with gold in various percentages..

<https://patents.google.com/patent/US3591373>

This material was obtained by Mr. Sugano from Koetsu.

The only other cartridges using this material are the Lyra Parnassus and Olympos.

The Koetsu Black then again uses Samarium Cobalt magnets.

FWIW.

Best
Thomas

Logged

you need two for stereo

stickmaker

Member



☐ Offline

Age: 58

Location: Liebenthal

Posts: 273



Re: Neumann DST copy???

« Reply #249 on: December 17, 2020, 11:56:48 AM »

Hi,

just got a mail from a friend in Japan who had the possibility to hear DST, the Westrex 10A and DST 62 (from left to right)
Getting them together from several collections.





In order to have the possibility to hear it again, he recorded the cartridge output without RIAA, with a linear headamp if you like, to tape. The tape can be turned down to very low level and feed a phono amp from there. Very unusual, but a pure phono signal is recorded not 'spoiled' by a certain RIAA stage. Interesting concept...



Best
Thomas

you need two for stereo

Lynnot

Member



☐ Offline

Location: Dutchman
in Westphalia
Posts: 1,603



Re: Neumann DST copy???

« Reply #250 on: December 17, 2020, 12:33:41 PM »

Hi Thomas,

did you get a chance to hear these as well?

Best regards, Tony

Logged

the neon light of the "Open all Night" was just in time replaced by the magic appearance of a new day

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #251 on: February 13, 2021, 05:45:22 PM »



My collection: three Neumann on the left, Lumiere in the center, my works on the right

Logged

Yuriy

berndkreis

Member



☐ Offline

Location: Stuttgart,
Germany
Posts: 302



Re: Neumann DST copy???

« Reply #252 on: February 13, 2021, 06:33:28 PM »

Are you selling yours?

Logged

Andr039

Member

☐ Offline

Location:
Königsberg, Russia
Posts: 2,123

**Re: Neumann DST copy???**

« Reply #253 on: February 13, 2021, 08:09:41 PM »

Yuriy, Quite an impressive collection you have got over the years!
Как я вижу, так никто и не сумел повторить Ваши "копии". По крайней мере, я не видел на Ленкохевене
Только Дариус из Литвы делал похожие, да и Андре из Южной Африки
Может, чуть больше информации и кто-то тоже решится на этот подвиг?
В любом случае, спасибо большое за то, что постите тут информацию, очень впечатляют Ваши труды!!
С наилучшими, Андрей

« Last Edit: February 13, 2021, 10:28:07 PM by
Andr039 »

Logged

Andrey

Vintagepsych

Member

☐ Offline

Age: 74
Location: Russia
Posts: 195

**Re: Neumann DST copy???**

« Reply #254 on: February 13, 2021, 09:02:03 PM »

thanks Andrey! Thank you for your kind words. We talked with you for a long time. I remember that you had very rare and wonderful cartridges. What do you have today. I will be very grateful for the photo. Sincerely.

Logged

Yuriy

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Jump to: => Cartridges and Styli

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Author

Topic: Neumann DST copy??? (Read 39319 times)

DanDanger

Member



☐ Offline

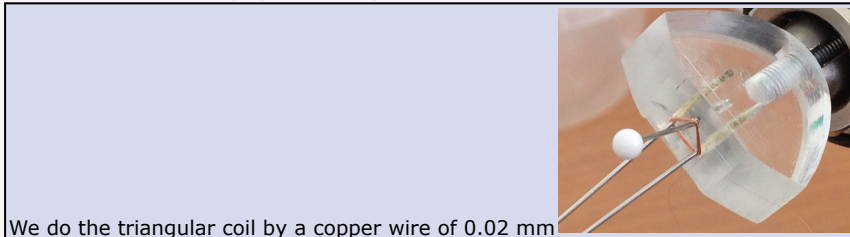
Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« **Reply #255 on:** March 11, 2021, 02:57:22 PM »

Quote from: Vintagepsych on July 22, 2017, 01:47:08 PM



We do the triangular coil by a copper wire of 0.02 mm

[\[/img\]](#)[\[/url\]](#)

Hi! I have been very inspired by the posts in this thread and started building my own cartridge. So far the biggest issue was building the coils. I managed to wind 40 turns copying your winding jig, but when I put on lacquer to fix the windings they also get fixed to the pins and when I don't put lacquer on the corners the coils fall apart. Is it a question of the right amount so the lacquer stays on the outside and doesn't creep through to the pins? Or are there any other tricks?

Thank you very much for any hints.

Best regards,
Daniel

Logged

Best regards,
Daniel

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Re: Neumann DST copy???

« **Reply #256 on:** March 17, 2021, 05:54:17 PM »

Daniel, My first ones turned out horrible. they looked good whilst on the bobbin.... Just apply the smallest amount of lacquer. I used a cocktail stick.

& make sure it's totally dry then remove One pin very carefully & all should be well.

Just about every part of this kind of build is trial & error 🤔

Ive tried to clarify as much as i can but there are still areas Im unsure of



Caught a bug, it's
'Lenco' James

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Logged

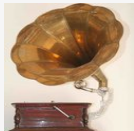
wer

Member



☐ Offline

Location: Catalunya
Posts: 9,120



Re: Neumann DST copy???

« **Reply #257 on:** March 20, 2021, 09:27:46 PM »

Can you delicately coat the pins with silicone oil before winding? That should prevent the lacquer from sticking to it?

Logged

Werner (wer - just my initials, not a nick!)
No esoteric audio equipment (except for my wife)

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« **Reply #258 on:** March 21, 2021, 01:24:24 PM »

Thanks for getting back. I have built a new jig using teflon instead of acrylic as a base and have coated the pins with oil. Putting on a drop and then wiping it off with a piece of toilet paper leaves just enough. Time and tranquility are in short supply currently but I have managed to wind one stable coil so far.

Logged

Best regards,
Daniel

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« **Reply #259 on:** March 22, 2021, 06:38:13 AM »

After winding the coil, secure the turns with a suitable varnish. Tie the ends of the wire carefully. With a rotating motion, slowly remove one, then the second needle. Then remove the third needle, but do not rotate. the coil will remain on the needle. Carefully detach the coil from the needle, hold it by the wires, and immerse it in the varnish. Let the coil dry. the coil is ready for mounting on the cantilever. Have patience, very delicate work. Sometimes you have to repeat the operation several times.

« *Last Edit: March 22, 2021, 06:47:23 AM by Vintagepsych* »

Logged

Yuriy

Jay

Member

Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Re: Neumann DST copy???

« **Reply #260 on:** March 22, 2021, 10:21:50 AM »

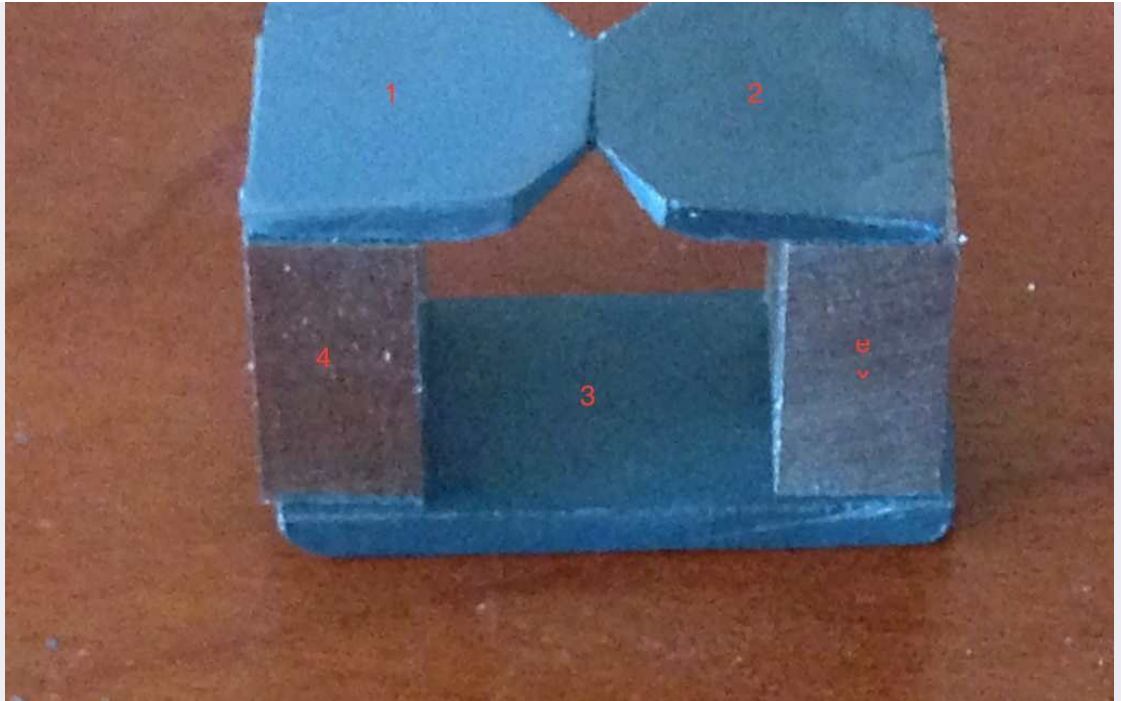
Exelent explanation for what would seem to be somthing so simple but often proves to be quite difficult.

One area I'm having problems with is sourcing, Is the permaloy? material.
parts 1, 2, & 3






Caught a bug, it's
'Lenco' James



« Last Edit: March 22, 2021, 10:50:13 AM by Jay »

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #261 on: March 22, 2021, 09:32:06 PM »



No problem. use parts from an old speaker

 Logged

Yuriy

Jay

Member
Member



☐ Offline

Location: A stones throw from, The Fog on the Tyne is all mine all mine. Newcastle UK
Posts: 1,937



Caught a bug, it's 'Lenco' James



Re: Neumann DST copy???

« Reply #262 on: March 23, 2021, 10:57:47 AM »

Hi Yuriy,

I believe you mentioned Field coil speakers....

We simply don't have these kind of speakers hear in the UK anymore, at least I haven't ever seen one like that.

If one can use an ordinary speaker, which particular parts would be used.

The only permalloy type material I've come across are the, E & I laminations from old Transformers. But these are much to thin.

Can anyone in the UK help with this part of the problem....

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

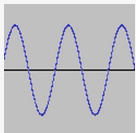
Brumm

Member



☐ Offline

Location: Central Switzerland
Posts: 1,129



Re: Neumann DST copy???

« Reply #263 on: March 23, 2021, 11:46:24 AM »

Jay, you are totally on the wrong path here. What you need is just very soft (almost pure) iron, that would you find in the cores of these speakers. This material has absolutely nothing to do with Permalloy. I think if need arises you cold use any mild steel.

Greetings,
Hansrudolf

Logged

Hansrudolf

"Music is supposed to wash away the dust of everyday life"

Art Blakey

aboos

Member



☐ Offline

Location: Germany
Posts: 152



Re: Neumann DST copy???

« Reply #264 on: March 23, 2021, 11:54:27 AM »

The question is: do you really need to use Permalloy - an alloy of NiFe with high amount of Ni (very similar to Mu-Metal). The speakers Yuri has shown use simple soft iron as magnetic material. And soft iron (pure Fe with very low Carbon content) is also what is used in more modern loudspeakers (back plate and pole piece of magnet structure). Field coil and modern speakers do only differ in the way how the static magnetic field is generated (electrical DC current vs permanent magnet)

Logged

Andreas

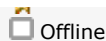
DanDanger

Member



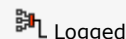
Re: Neumann DST copy???

« Reply #265 on: March 23, 2021, 01:01:31 PM »



Location: Berlin,
Germany
Posts: 36

The fancy type of soft magnetic material would be "permendur", but as has been said anything will do for a start. Look for discarded tv sets and soundbars and mini stereos (where I live I can find ones people threw out on the sidewalk...) and take out the speakers. Take out the pole piece and you have what you need. Or check local classifieds for the cheapest speakers you can find.



Best regards,
Daniel

Jay

Member
Member



Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



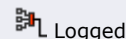
Re: Neumann DST copy???

« Reply #266 on: March 23, 2021, 06:36:13 PM »

Thanks to all,

I now have good idea what to look for.. (back plate and pole piece of magnet structure) ..A friend is chucking out a small pair of computer speakers, so Ill grab them on Thursday & see what can be scavenged.

Hopefully now I'm back on the right path.....😄



James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

Jay

Member
Member



Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« Reply #267 on: March 26, 2021, 11:45:55 AM »

So I was able to get these speakers, The larger round speaker material is quite thick, about 3mm with No separate pole piece. The magnet is 10 thick. The steel its made from is quite hard..

The smaller oval speaker is made in much the same manner. Though is made from much thinner material About 1.0mm thick & with 2 magnets, 6mm thick. The two steel pieces seems to be a bit softer.

Questions....

Im assuming that the much thinner & slightly softer steel from the smaller speaker would be closer to the required type for the pole pieces.


If so, I can fashion it to the required shape to suite the magnets i have.

Would it still be necessary to heat them up, to soften them further.





« Last Edit: March 26, 2021, 01:29:48 PM by Jay »

 Logged

James.
Decca's, clones & home brewed HiFi

I am defiantly wired differently

aboos

Member



☐ Offline


Location: Germany
Posts: 152



Re: Neumann DST copy???

« Reply #268 on: March 26, 2021, 01:40:07 PM »

Yes, after having all parts in their final shape (after cutting, bending, grinding, hammering ...) you should heat them up to a bright yellow-white colour (as already shown by Yuri) and then let them cool down slowly. This will soften the material and restore optimal magnetic properties

 Logged

Andreas

DanDanger

Member



☐ Offline

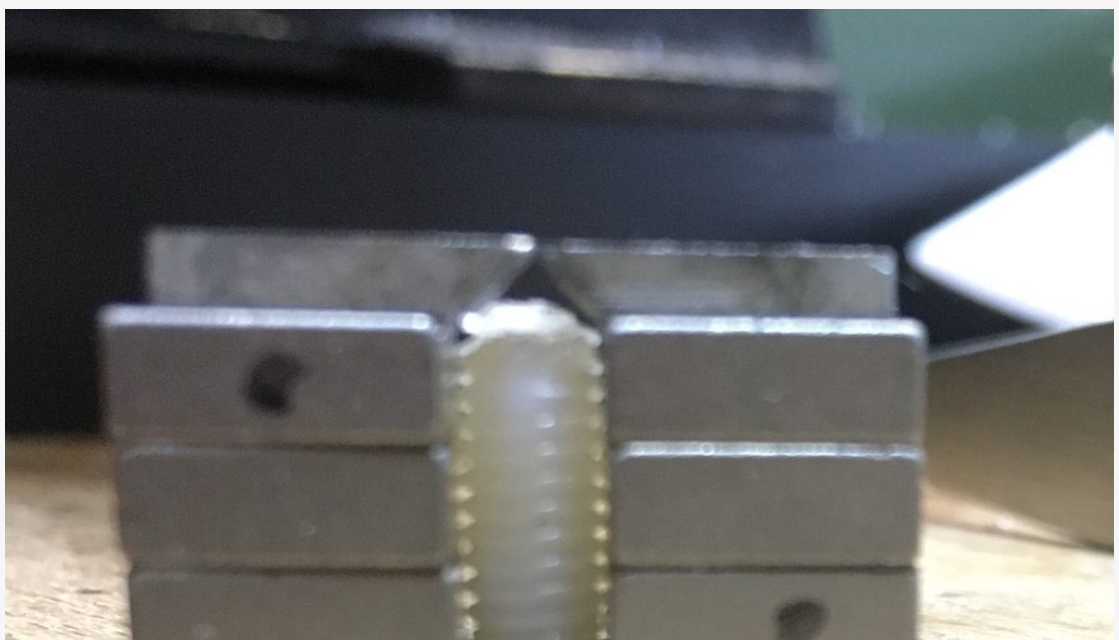
Location: Berlin,
Germany
Posts: 36



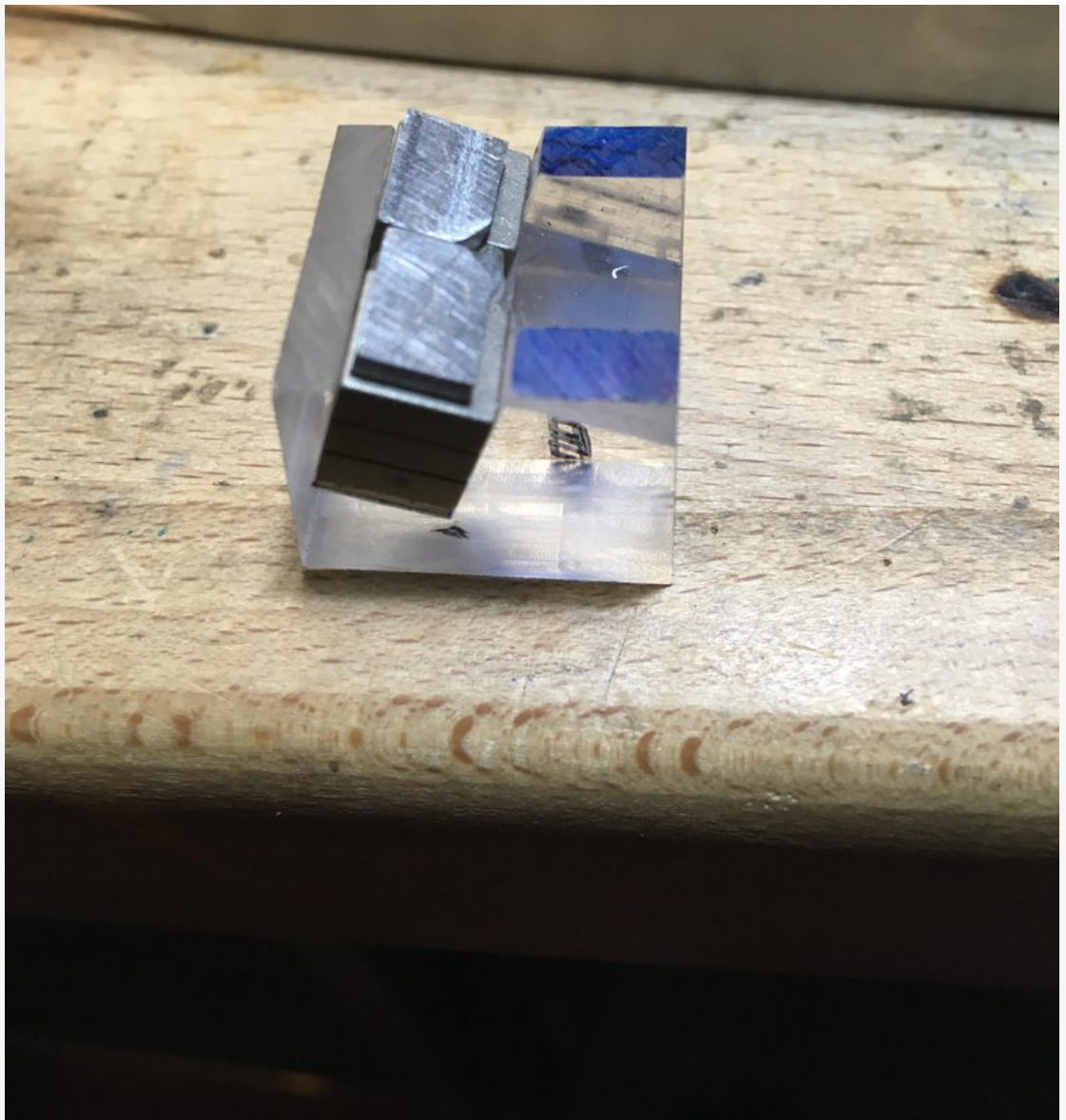
Re: Neumann DST copy???


« Reply #269 on: April 04, 2021, 09:57:54 PM »

I am making steps forward. Attaching a stylus to a cantilever is too much trouble for now so I am angling the generator and will use a premade catilever stylus assembly. So it will be a simplified version of Leonid Sinitsin's Tzar more than a Neumann DST. With the coils I am down to only a 50% failure rate, mostly one of the leads mysteriously breaking after dipping.







 Logged

Best regards,
Daniel

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Author

Topic: [Neumann DST copy???](#) (Read 39320 times)

Jay

Member
Member



☐ Offline

Location: A stones
throw from, The Fog
on the Tyne is all
mine all mine.
Newcastle UK
Posts: 1,937



Caught a bug,it's
'Lenco' James



Re: Neumann DST copy???

« **Reply #270 on:** April 05, 2021, 10:06:54 AM »

Nice implementation for angling the bloc.

What magnets are you using

Logged

James.

Decca's, clones & home brewed HiFi

I am defiantly wired differently

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« **Reply #271 on:** April 05, 2021, 03:13:37 PM »

Samarium cobalt, 8x8x3mm.

Logged

Best regards,

Daniel

walterwalter

Member



☐ Offline

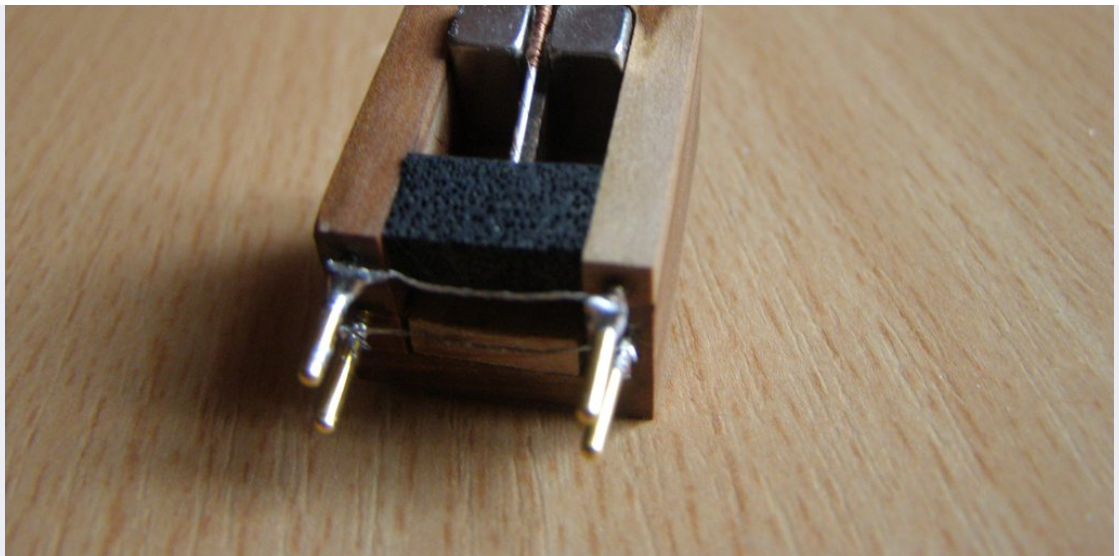
Posts: 32



Re: Neumann DST copy???

« **Reply #272 on:** April 14, 2021, 03:37:55 PM »

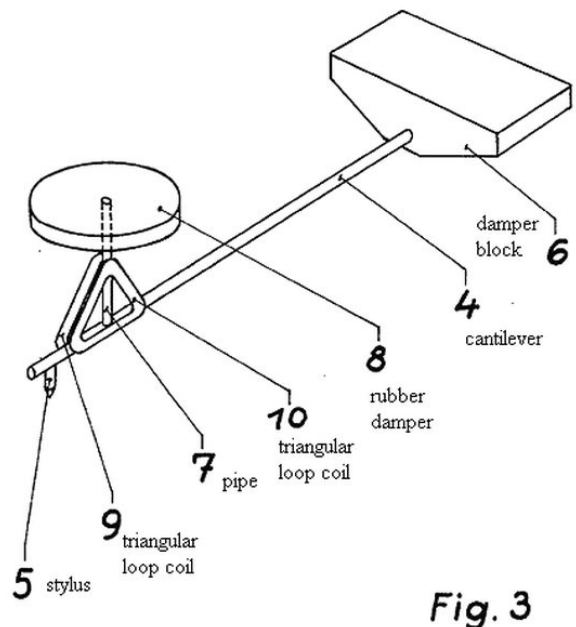
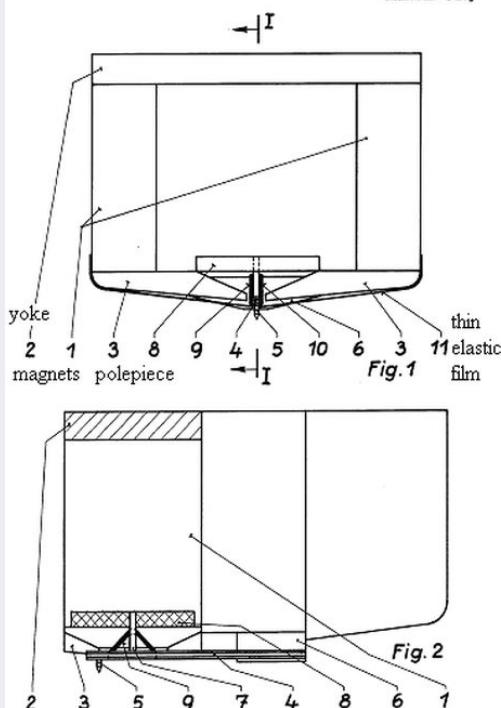




ZEICHNUNGEN BLATT 1

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DAS 1129 718
 NL 42 g 5/02
 ENTWURF: G 10j



Quote from: Vintagepsych on July 25, 2017, 03:15:28 AM

Dear friends! I will only be glad if my information is useful to someone. I am ready to answer your questions, concerning a design and technology, and I will be happy if someone, begins to build the project, making use of my experience.

Quote from: Vintagepsych on July 25, 2017, 03:15:28 AM

Dear friends! I will only be glad if my information is useful to someone. I am ready to answer your questions, concerning a design and technology, and I will be happy if someone, begins to build the project, making use of my experience.

Hi to everyone. I was inspired by that thread to try building my own version of DST cartridge. However, original DST cartridge is not available for me to study, as well as it's description. I do have some questions and I hope Yuriy or someone familiar with cartridge construction will share some knowledge here. I'll put Neumann patent picture here (as well as my trial mono version of cartridge) here to refer my questions to.

1) In the patent picture rear of cantilever(4) is attached to the part called damper block (6). However, in real cartridge part (6) is a solid metal part, having no springiness, elasticity or compliance. How they are connected to each other? Glue? No any elasticity? May I suppose what compliance provided only by cantilever tube springiness?

2) In my prototype (6) is not a metal part, it is pretty hard microporous rubber block. It has some real elasticity, but to work normally, cart still needs more than 6 gramm VTF. Sound is really good, close to Ortofon SPU Mono.


3) If in real DST compliance has been provided by as rigid part, as cantilever tube is,

real compliance should be far less, than DST manual says, and VTF should be much more, than 6 gramm, in order to avoid mistracking.

Am I understanding something wrong?

Walter

« Last Edit: April 14, 2021, 03:53:28 PM by walterwalter »

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #273 on: April 14, 2021, 08:44:59 PM »

hi Walter! Great work and a bold decision!

Neumann DST device is shown on the first pages of topic.


Part number six is the cantilever holder. Not a damper.



damping is provided by parts 7 and 8.

My head works great on the 4 grams

« Last Edit: April 14, 2021, 09:06:33 PM by Vintagepsych »

 Logged

Yuriy

hansen

Member



☐ Offline

Location: Denmark

Posts: 54



Re: Neumann DST copy???

« Reply #274 on: April 14, 2021, 09:05:02 PM »

Hello Yuriy

After re-reading the most of this thread, i am still in doubt off how tight the fitting of the cantilever should be in the cantilever-holder.

Shall it be freely gliding, or is it a tight/strict fit - locked?

What is the purpose of the two tiny holes orthogonal to the cantilever?

Henrik

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« **Reply #275 on:** April 14, 2021, 09:09:17 PM »

the console is firmly seated in the holder. two holes for pouring glue

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« **Reply #276 on:** April 14, 2021, 10:07:25 PM »

Yuriy, thanks a lot. I think it will require a much heavier tonearm and headshell, even in my case, and even heavier if pure DST construction is made. I will put weights and report results. Hope I will be able to decrease VTF.

Walter

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« **Reply #277 on:** April 15, 2021, 05:53:48 AM »

I wish you success, Walter

Yuriy

DanDanger

Member



☐ Offline

Location: Berlin,

Germany

Posts: 36



Re: Neumann DST copy???

« **Reply #278 on:** April 15, 2021, 09:53:51 AM »

Walter, I am currently experimenting with types of cantilevers. Maybe cutting the aluminum tube you are using behind the coils and gluing in a carbon rod (0,3mm might fit? Something like this: <https://www.ebay.de/itm/CFK-Rundstab-500-mm-Kohlefaser-Carbon/141748789759?var=440862577611>) gives you the compliance you are looking for.

Best regards,

Daniel

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« **Reply #279 on:** April 15, 2021, 12:12:17 PM »

DanDanger, great idea. Or, maybe, using Leonid Sinitsyn's Tsar DST style solution. I'll buy some carbon rods to experiment with. Thank You.

.

Walter

Andr039

Member



☐ Offline

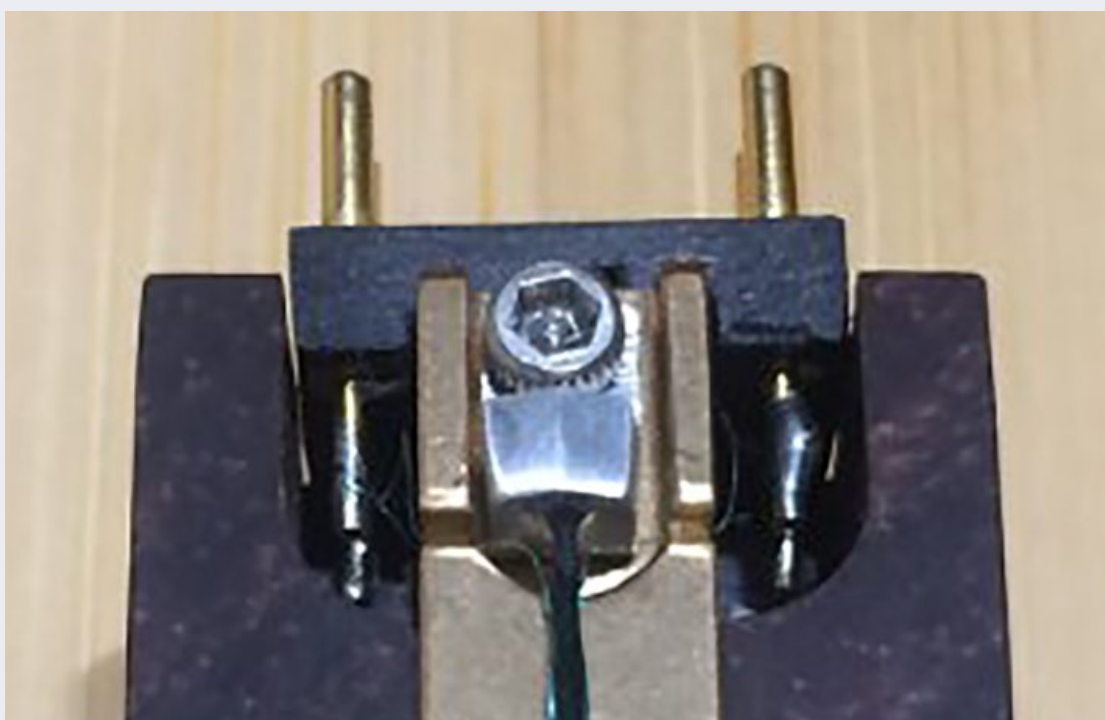
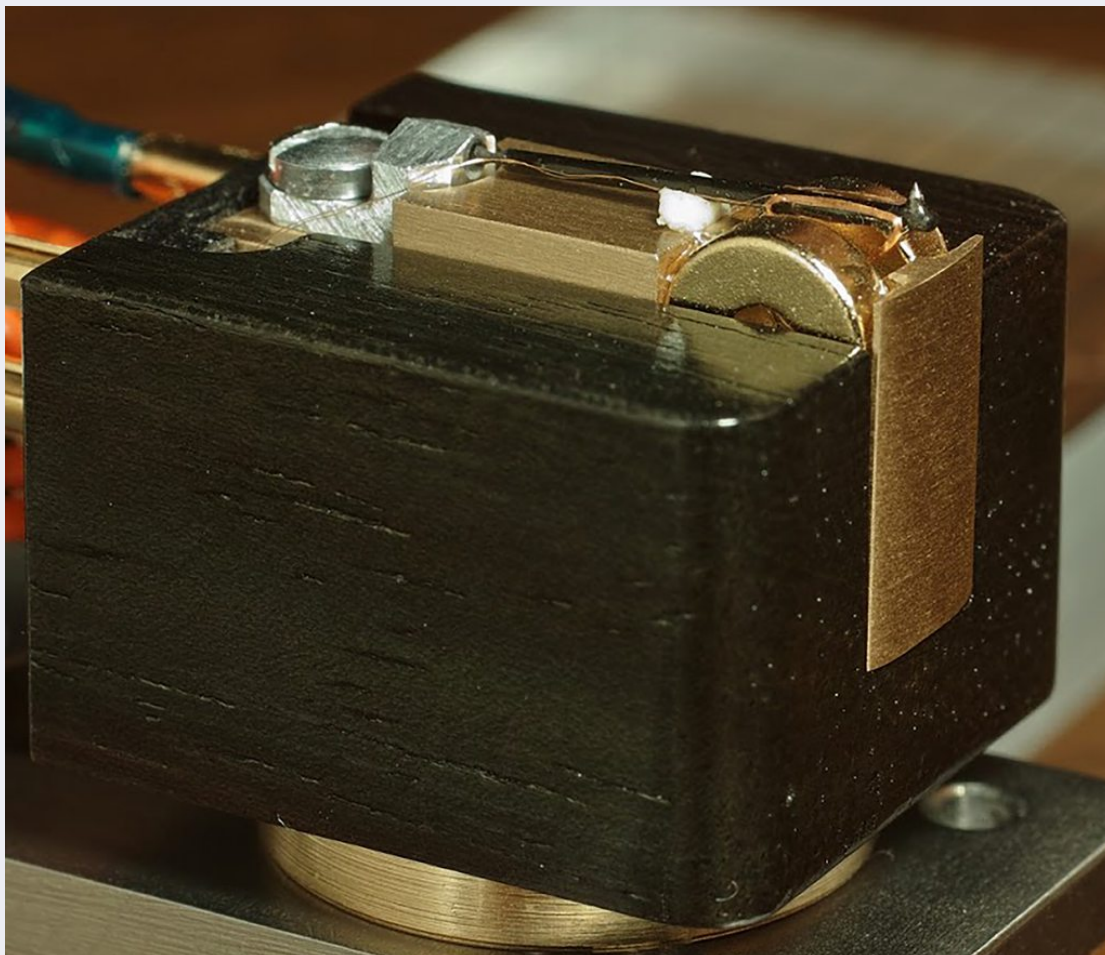
Location:
Königsberg, Russia
Posts: 2,123

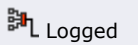


Re: Neumann DST copy???

« Reply #280 on: April 15, 2021, 09:15:46 PM »

I hope Yuriy do not mind if I post pictures of Leonid Sinitsin's cartridges here, in Yuriy's thread





Page 6 of 8

« Last Edit: April 16, 2021, 11:00:15 AM by Vintagepsych »

Logged

Yuriy

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« Reply #282 on: April 19, 2021, 11:01:50 AM »

Quote from: walterwalter on April 15, 2021, 12:12:17 PM

Or, maybe, using Leonid Sinitsyn's Tsar DST style solution. I'll buy some carbon rods to experiment with. Thank You.

Walter

Walter, the Albion Alloys aluminum tube that Yuriy linked earlier is very soft and needs the DST style round damper to be stable enough. I also tested 0,28mm and 0,5mm solid carbon and 0,7x0,3mm carbon tube. The tube is way too stiff, the 0,5mm too stiff but the 0,28mm works pretty well with either a DST round damper or the Tzar version of the little stabilizing rubber.

Logged

Best regards,
Daniel

walterwalter

Member



☐ Offline

Posts: 32

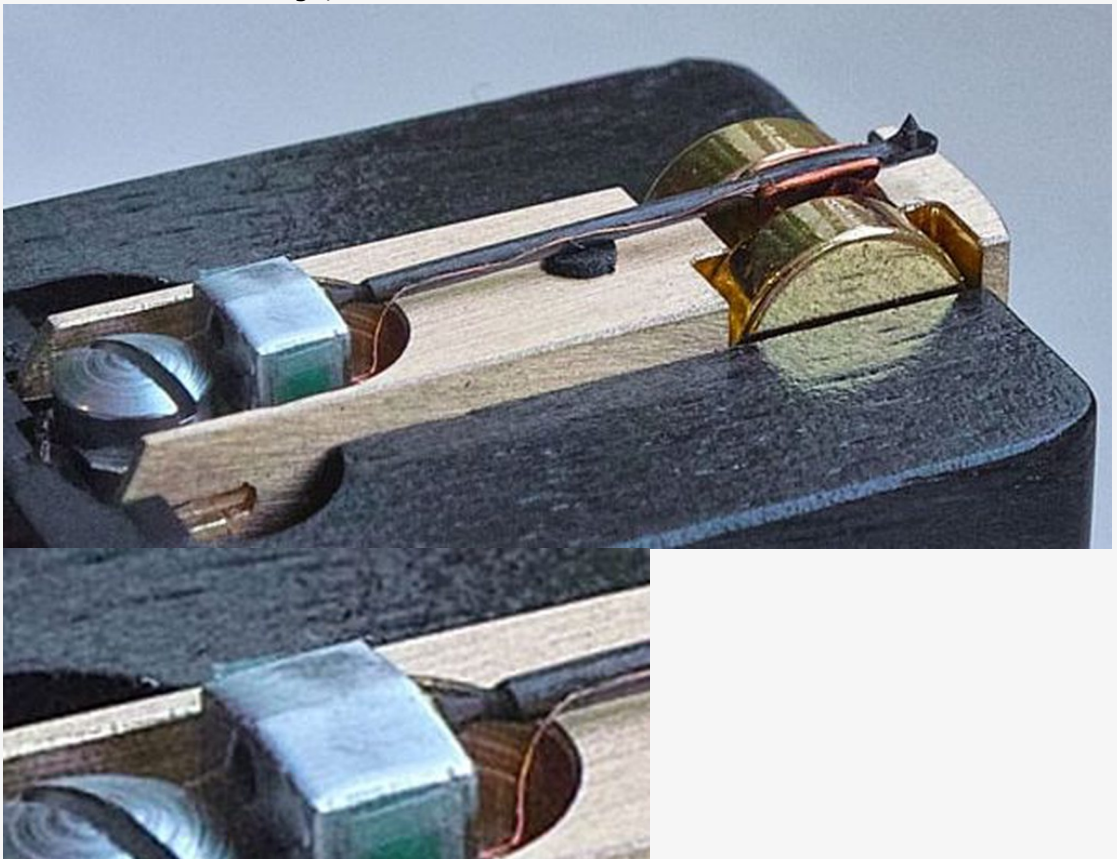


Re: Neumann DST copy???

« Reply #283 on: April 20, 2021, 01:12:29 PM »

Vyntagehsych, and what is impedance of real DST coil?

Dandanger, I've got carbon rods 0,7 and 0,9mm. And I will consider making a recess, as on Sinitsin's cartridge, near the cantilever base.





Logged

Vintagepsych

Member



Offline

Age: 74

Location: Russia

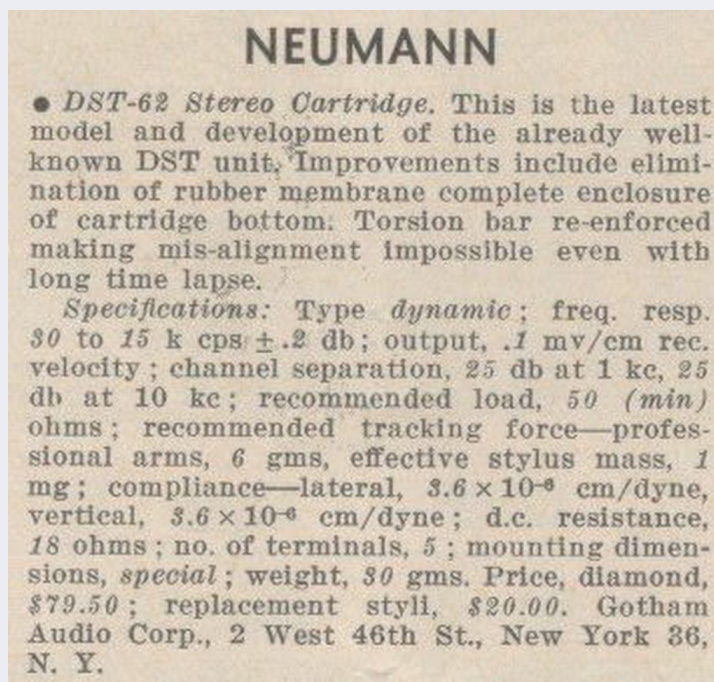
Posts: 195



Re: Neumann DST copy???

« Reply #284 on: April 21, 2021, 06:31:14 AM »

hope this information will be helpful



« Last Edit: April 27, 2021, 09:21:02 PM by Vintagepsych »

Logged

Yuriy

Pages: «previous 1 ... 18 [19] 20 ... 26 next» [Go Up](#)

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Jump to: => Cartridges and Styli

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Author

Topic: Neumann DST copy??? (Read 39321 times)

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« **Reply #285** on: May 11, 2021, 12:28:28 PM »

Quote from: walterwalter on April 14, 2021, 03:37:55 PM



Walter, may I ask where you got the gold plated connector pins? There are so many pins available but none seem to match the standard 1.2mm.

Thank you for your input,
Daniel

Logged

Best regards,
Daniel

walterwalter

Member



☐ Offline

Posts: 32

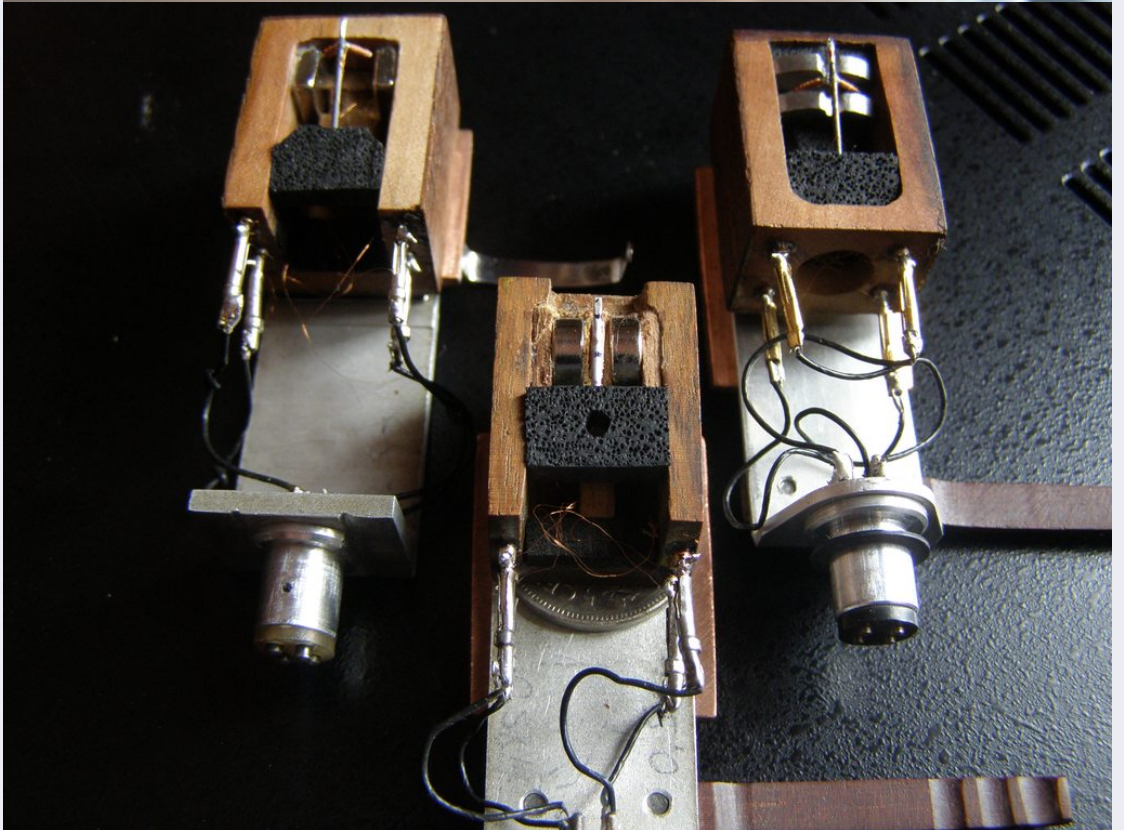


Re: Neumann DST copy???


« **Reply #286** on: May 31, 2021, 07:47:01 PM »

Daniel, for the gold plated pins I've stripped broken MC cartridge. And for the silver ones I've disassembled some USSR military connectors (surprisingly they have appeared to be made of solid silver).
Here are some my variations on the Westrex, Neuman and Sinitsyn's DST. They are all stereo. Not close copie of originals yet.







 Logged

Andr039

Member



☐ Offline


Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #287 on: May 31, 2021, 08:42:59 PM »

Walter, what's those black rubber ish looking suspension blocks?

 Logged

Andrey

walterwalter

Member



☐ Offline


Posts: 32



Re: Neumann DST copy???

« Reply #288 on: May 31, 2021, 09:44:30 PM »

Those are made of pretty hard porous rubber, cut from a big flat piece. One more left-over from former USSR industry. They seem to be lasting forever, with no crack or further hardening, elasticity remains constant. Very good suspension with possibilities to adjust all dimensions and angles, as well, as stiffness of suspension. As a result, sound is rich, bottom as well as middle seem to be perfect, and now I'm struggling with HF curve. And it is already clear what coreless coils sound more natural and involving, than permalloy based.

 Logged

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

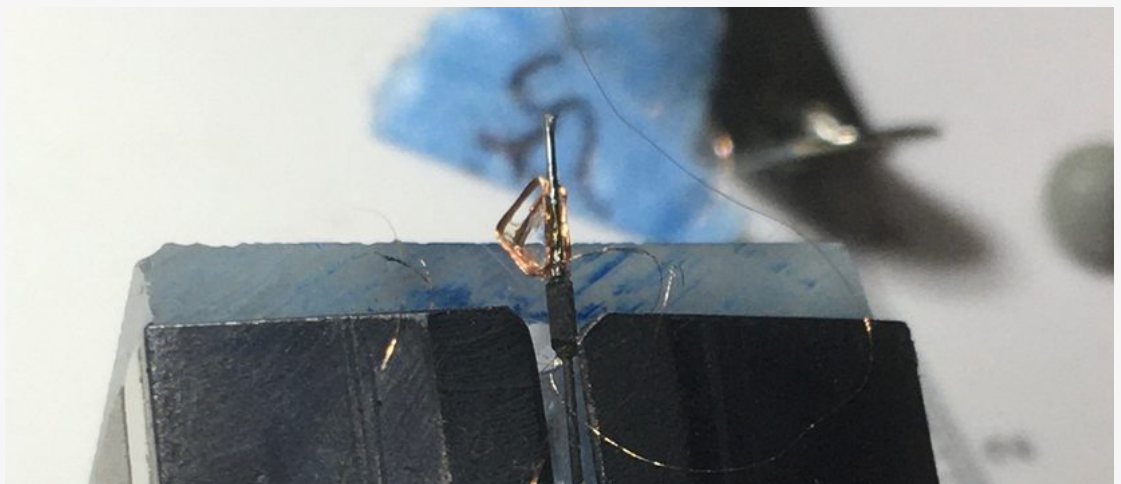
« Reply #289 on: June 09, 2021, 09:11:35 PM »

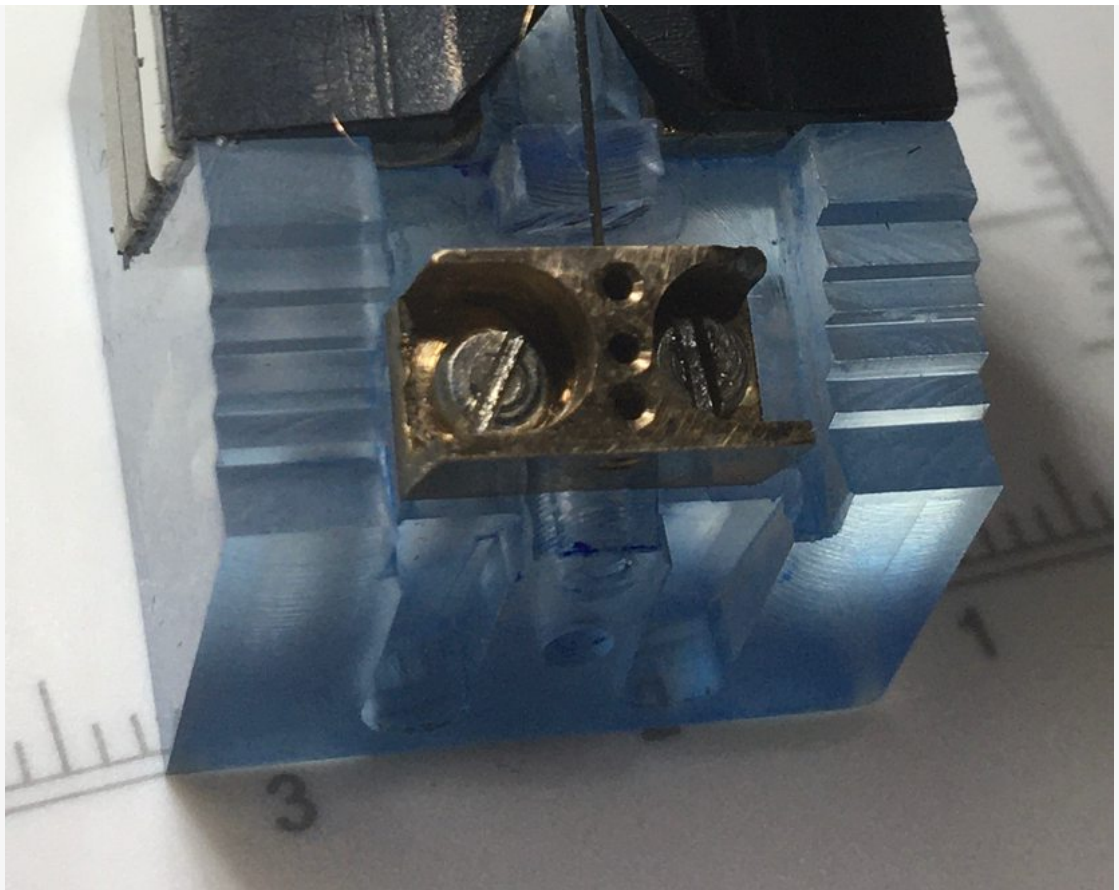
Quote from: Vintagepsych on April 14, 2021, 09:09:17 PM

the console is firmly seated in the holder. two holes for pouring glue

Yuriy, would you mind sharing what kind of glue you are using here that is thin enough to be poured through these little holes? Glueing in the cantilever is the last step to finish my build and I spent a lot of time figuring out glueing with a lot of failures along the way.

Thanks again for all your help.





« Last Edit: June 09, 2021, 09:21:19 PM by DanDanger »

 Logged

Best regards,
Daniel

zwarte-romantiek

Member

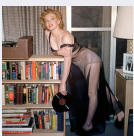


☐ Offline

Age: 57

Location: Utrecht,
The Netherlands

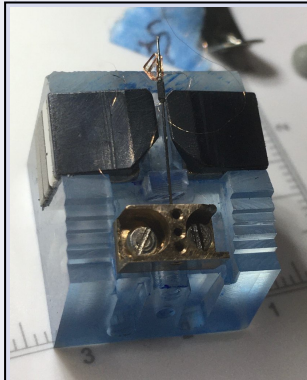
Posts: 1,165



Re: Neumann DST copy???

« Reply #290 on: June 10, 2021, 06:56:28 AM »

Quote from: DanDanger on June 09, 2021, 09:11:35 PM



Amazing work! Looks great! The final steps....

Regards

Niels

 Logged

THORENS lover

Niels J. Masselink
The Netherlands

needlestein

Member

☐ Offline

Age: 53
Location: West
Hartford, CT
Posts: 1,820

**Re: Neumann DST copy???**

« Reply #291 on: June 11, 2021, 05:42:52 AM »

Here is where the real craftsman hang out. I applaud all your work. Wow! Amazing! Inspiring!

Logged

Joseph

DanDanger

Member

☐ Offline

Location: Berlin,
Germany
Posts: 36

**Re: Neumann DST copy???**

« Reply #292 on: June 12, 2021, 04:39:51 PM »

I really applaud all your soldering, Joseph. I had planned on finishing the cartridge in the morning and spent two hours on practicing soldering the tiny wires. It worked fine until one of the leads broke right off the coil, no chance to add a patchwire. Well, I'll glue on new coils and keep trying...

Logged

Best regards,
Daniel

DanDanger

Member

☐ Offline

Location: Berlin,
Germany
Posts: 36

**Re: Neumann DST copy???**

« Reply #293 on: July 03, 2021, 12:32:47 PM »

If anyone is looking for wire: I bought a roll on Ebay that is self bonding, meaning after winding you heat it with a heatgun and instantly have a solid coil. The seller has another roll: <https://www.ebay.de/itm/Kupferlackdraht-0-02-mm-etwa-0-260-Kg/255031981131>

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Best regards,
Daniel

walterwalter

Member

☐ Offline

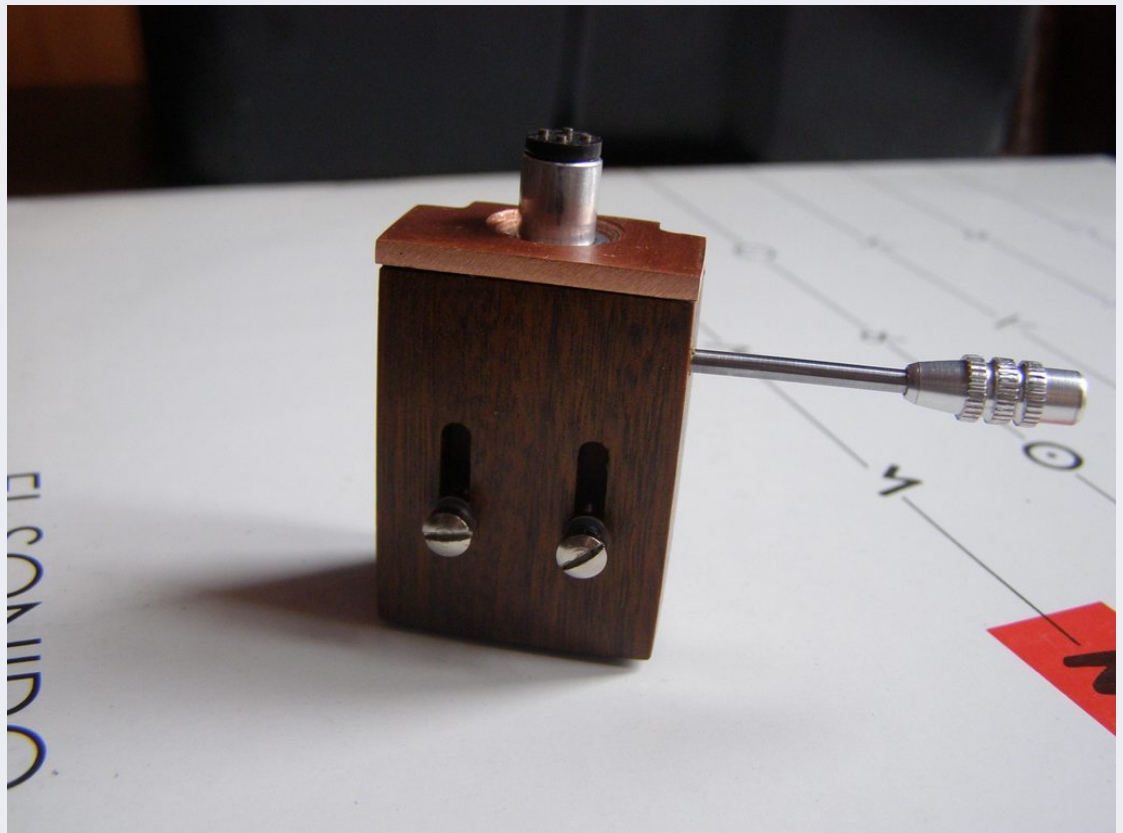
Posts: 32

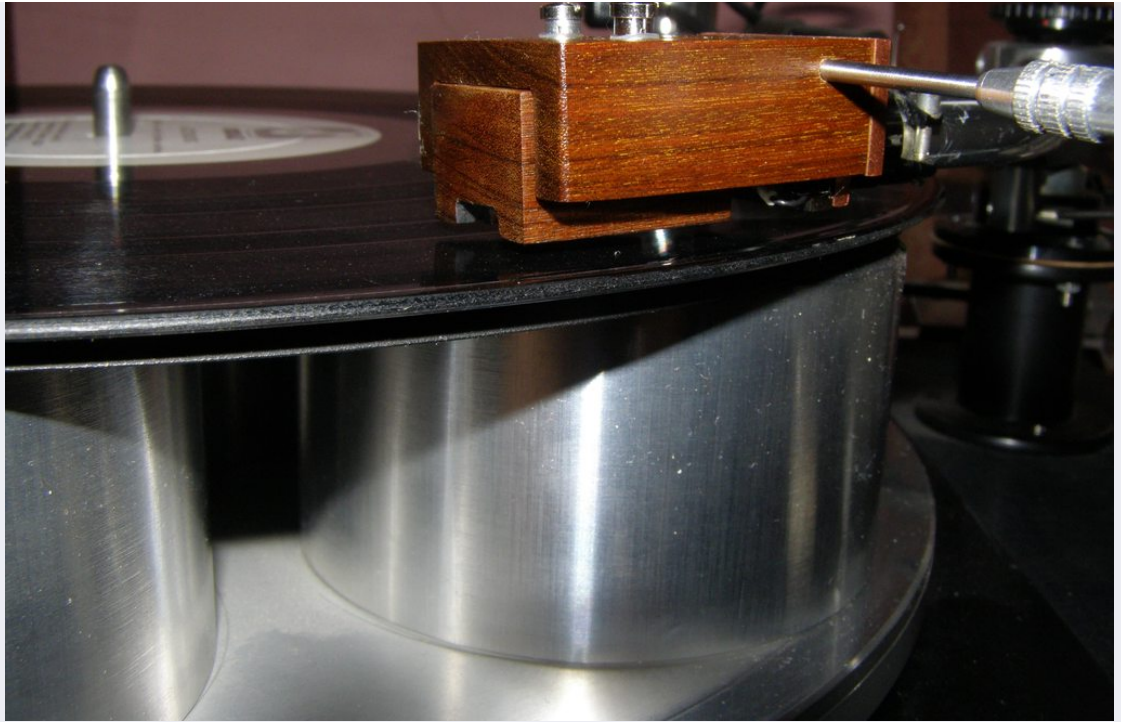
**Re: Neumann DST copy???**

« Reply #294 on: December 06, 2021, 12:08:53 PM »

To keep thread alive. My version of Neumann and Tsar DST hybrid. Installed into the aipe wooden shell, made for EMT arm, and so, compatible with EMT shells and carts. All made by me.







Logged

Vintagepsych

Member



Offline

Age: 74

Location: Russia

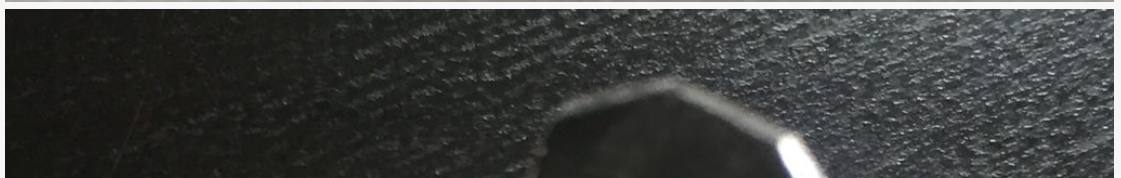
Posts: 195



Re: Neumann DST copy???


« Reply #295 on: December 14, 2021, 09:12:44 AM »

I ran out of Alnico magnets so I decided to try samarium-cobalt. These are strong magnets but very fragile. They collapse from the slightest blow, look at the photo you can see chips.





« Last Edit: December 16, 2021, 07:37:51 PM by
Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



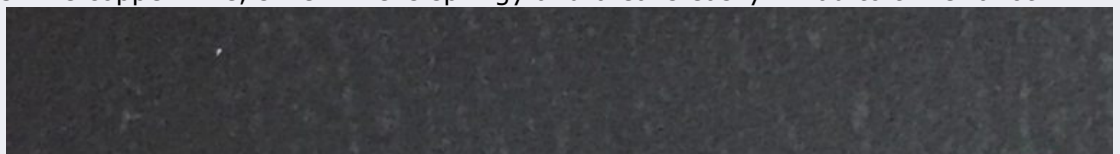
Re: Neumann DST copy???

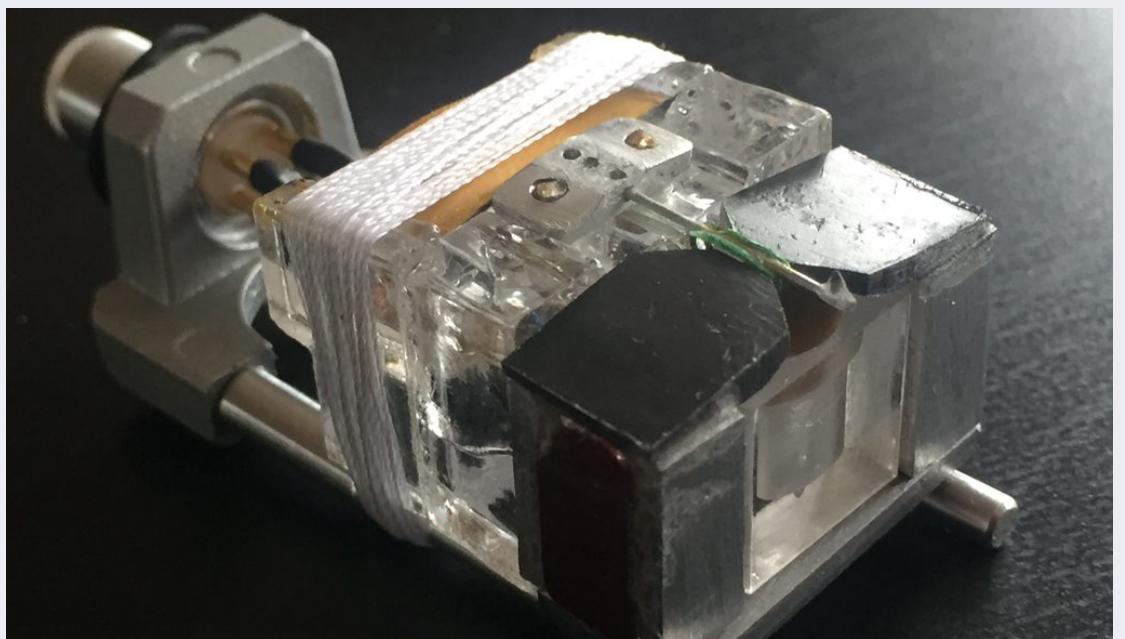
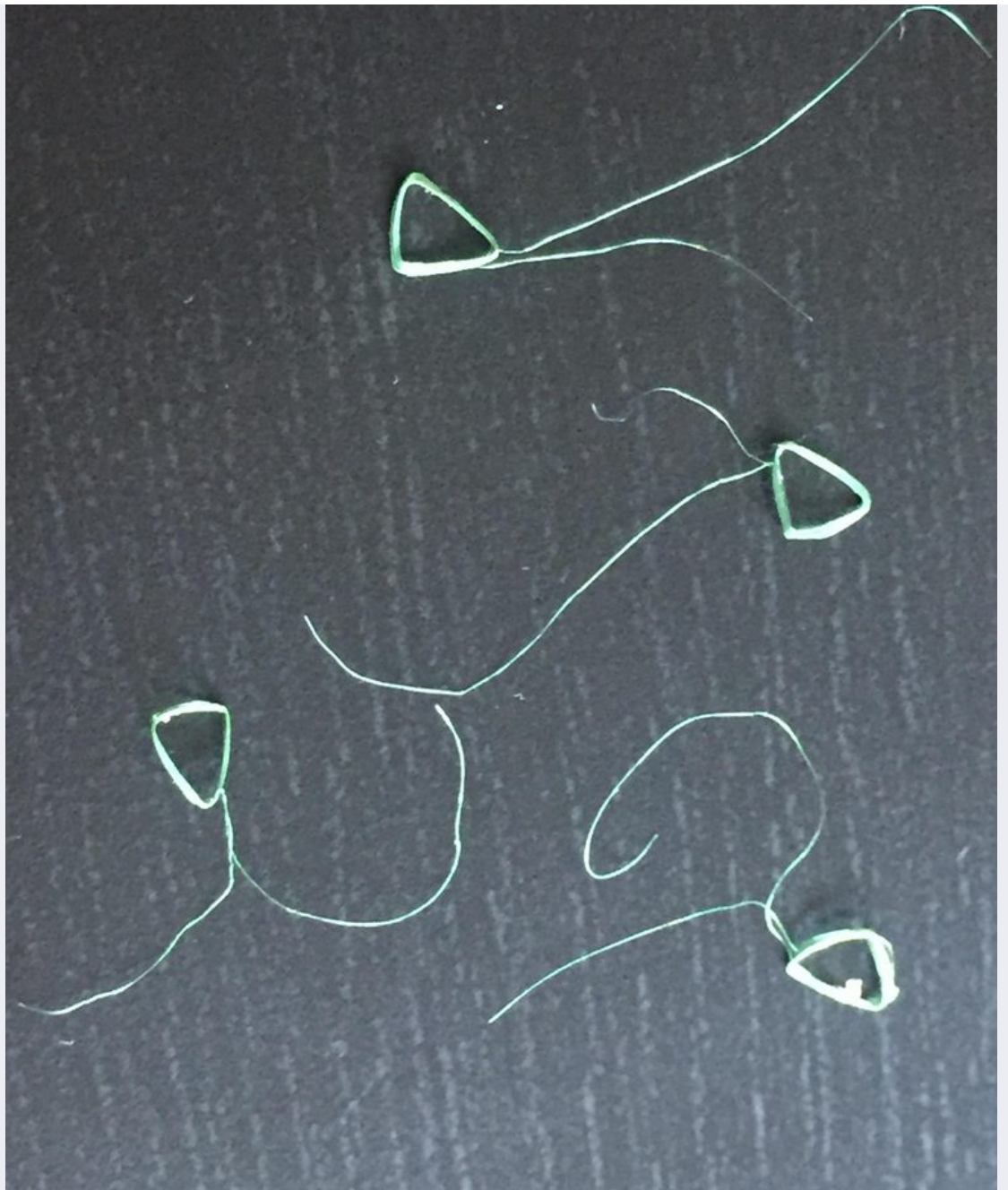
« Reply #296 on: December 14, 2021, 09:47:02 AM »

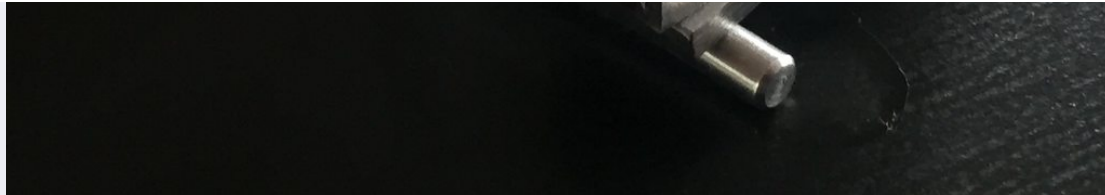
Besides the samarium-cobalt magnets, I decided to use a silver wire for the voice coils.



Unlike copper wire, silver wire is springy and breaks easily. I had to tinker a lot.







« Last Edit: December 27, 2021, 03:33:29 PM by Vintagepsych »

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32




Re: Neumann DST copy???

« Reply #297 on: December 15, 2021, 10:32:07 AM »

Output still extra low? By the way, are there any hum related problems due to low output of average DST cartridges? I do have them with my, it definitely requires other design of cable from turntable to MC transformer, because average cables (good enough for standard LOMC) pick up lot of hum with Extra LOMC.

« Last Edit: December 15, 2021, 02:50:36 PM by walterwalter »

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Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia


Posts: 195



Re: Neumann DST copy???

« Reply #298 on: December 15, 2021, 02:18:13 PM »

The level is quite sufficient. I even tried connecting the head to the MM input without an MC transformer. the head played normally.

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #299 on: December 15, 2021, 03:02:20 PM »

So, it looks like my guess what with the air coils and absence of permalloy core, both material and strength of magnet will not cause sound degradation, common with average MC design? If yes, we may use bigger and stronger magnets, and decrease size of coils (and moving mass), still having decent output, without sound compromises, usual with traditional HOMC... I will try it soon. By now, my cartridges sound very well.

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Author

Topic: [Neumann DST copy???](#) (Read 39322 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« **Reply #300 on:** December 16, 2021, 08:39:44 AM »

over time it turned out that compared to my other cartridges, the sound lacks warmth.
what is the reason: samarium or silver?

Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

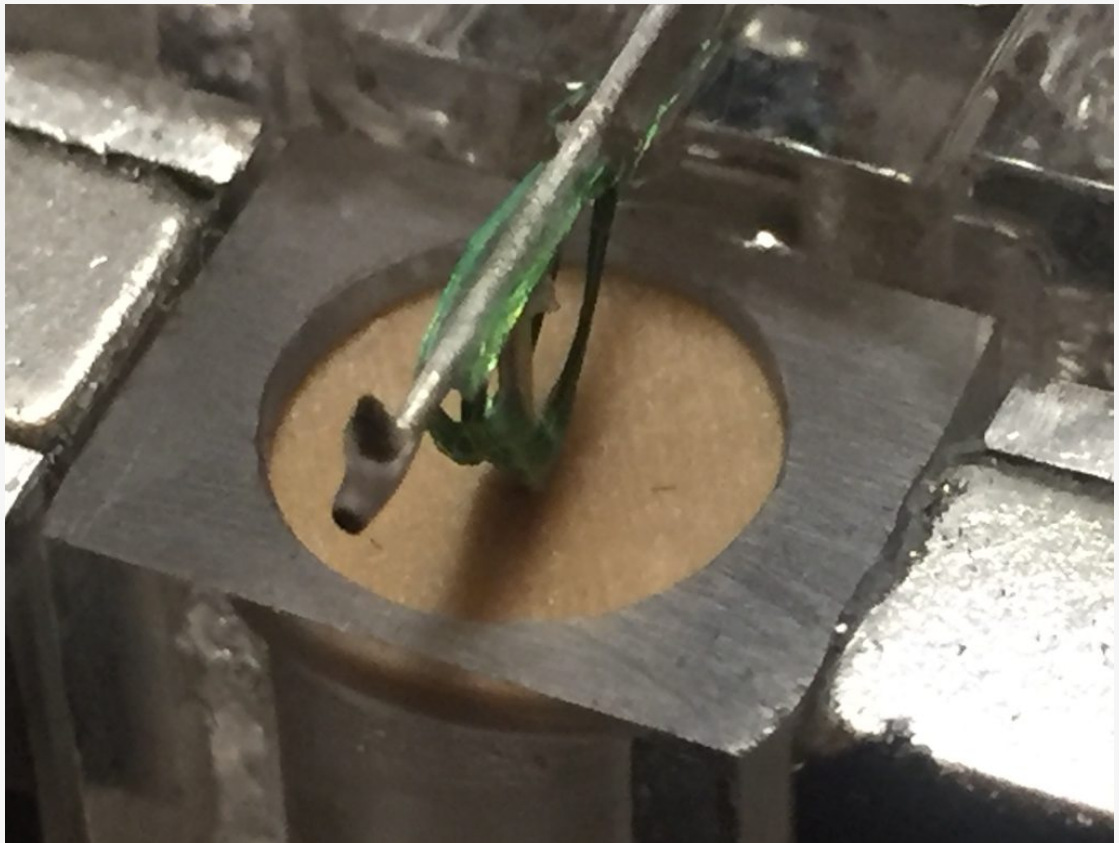
Posts: 195



Re: Neumann DST copy???

« **Reply #301 on:** December 18, 2021, 07:46:59 PM »

rewound voice coils. made them more massive.





made other pole pieces. their shape is changed so that the magnetic flux crosses the coil along its entire length. left old tip right new



Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

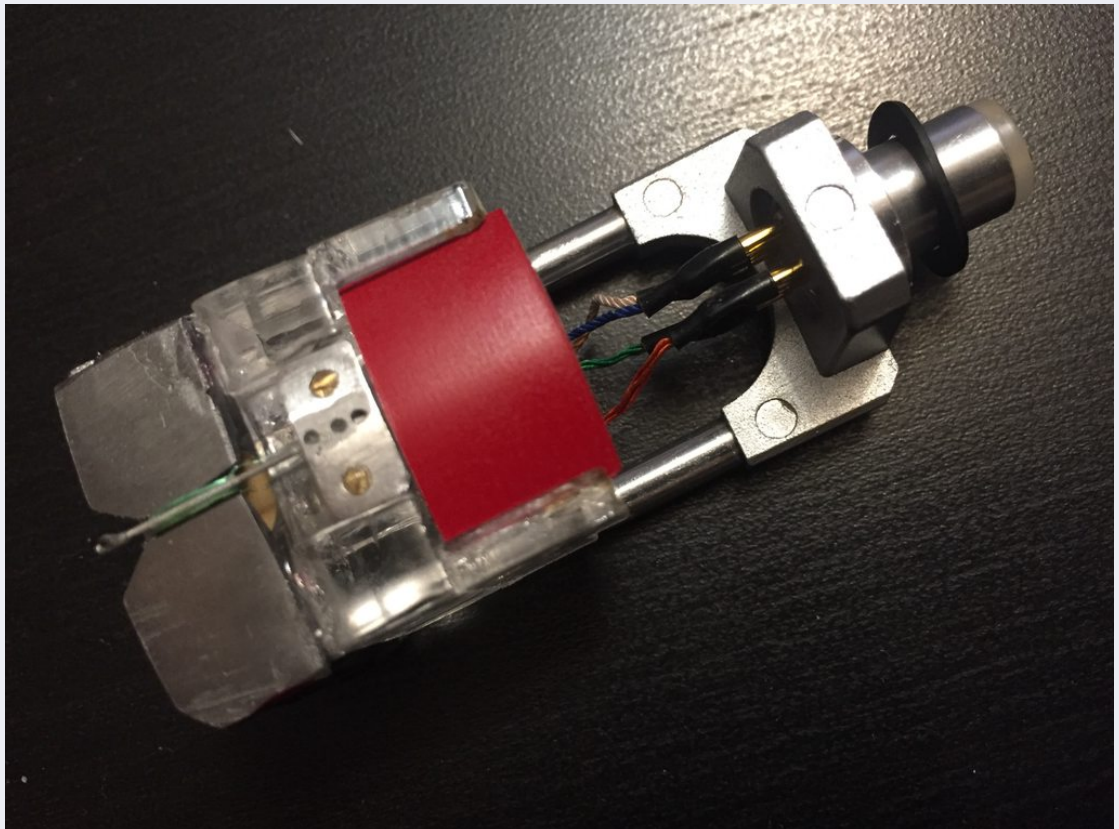
Posts: 195



Re: Neumann DST copy???

« Reply #302 on: December 19, 2021, 08:52:01 PM »

after the rework, the sound has improved, although it still has a markedly cool color




Cartridge



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Watch on  YouTube

Yuriy

wenig watt

Member



☐ Offline

Age: 56

Location: Hansestadt

Wismar Baltic Sea

Posts: 1,974

Der Kopf ist rund...




Re: Neumann DST copy???

« Reply #303 on: December 20, 2021, 12:09:16 AM »

I don't build pickups, but Ipe or Panzerholz is very pleasantly noticeable in the sound of my rebuilt tonearms. Also as a spacer on the pickup it corrects a too bright clinical sound. I could supply blanks if I get measurements.

Best regards

Arndt

 Logged

...damit das Denken die Richtung ändern kann.

walterwalter

Member



☐ Offline


Posts: 32



Re: Neumann DST copy???

« Reply #304 on: December 20, 2021, 01:54:20 PM »

Yuriy, would you try the same magnets with copper wire couls? Curious, if sound couldness is due to material of coils, or maybe caused by magnets?

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

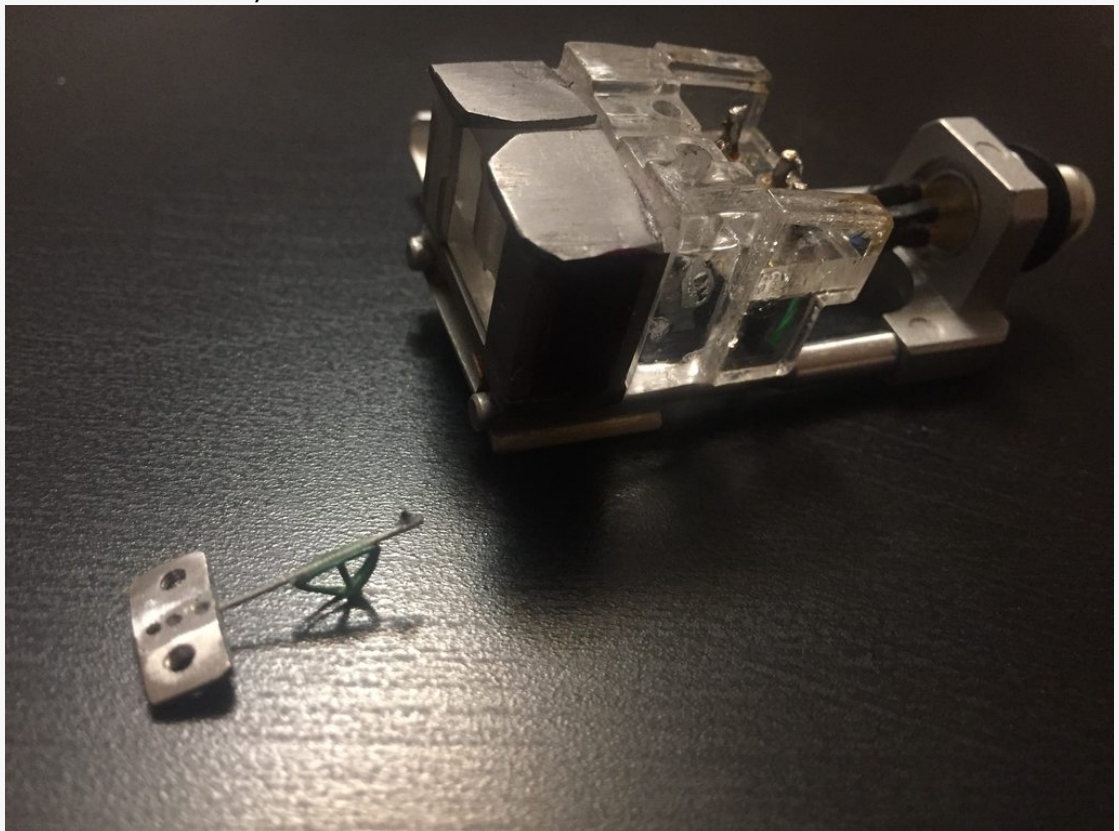
Posts: 195



Re: Neumann DST copy???

« Reply #305 on: December 23, 2021, 04:43:38 AM »

thanks Walter. maybe I will



Yuriy

Vintagepsych

Member



Offline

Age: 74

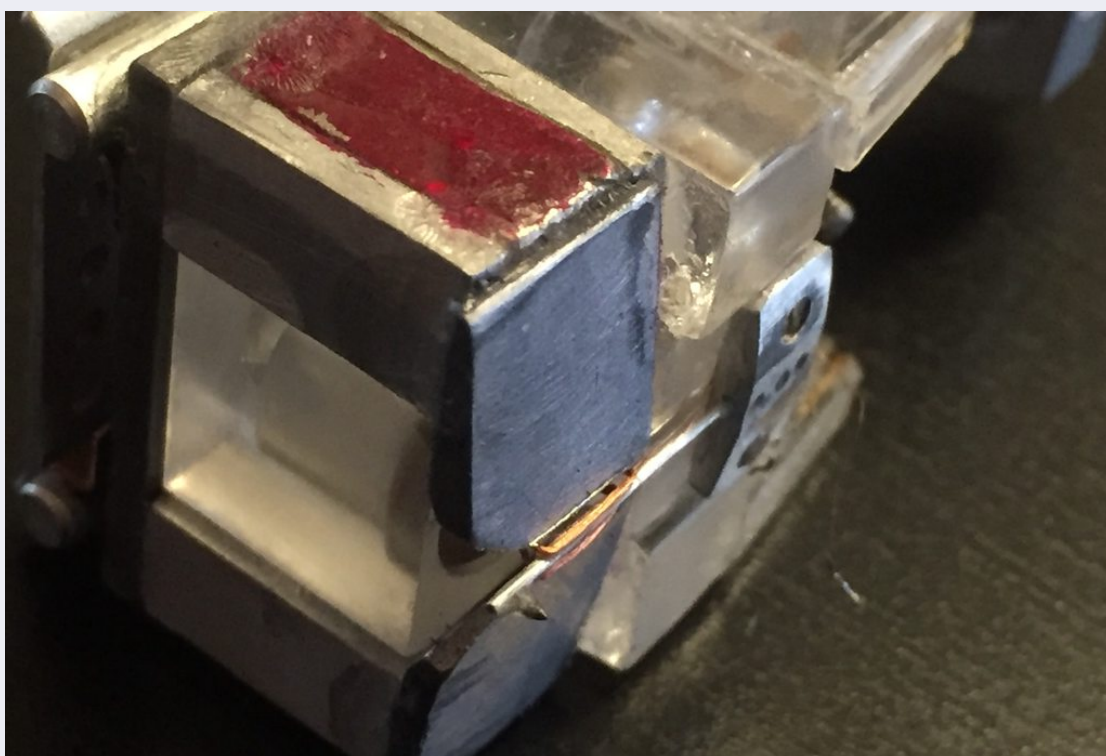
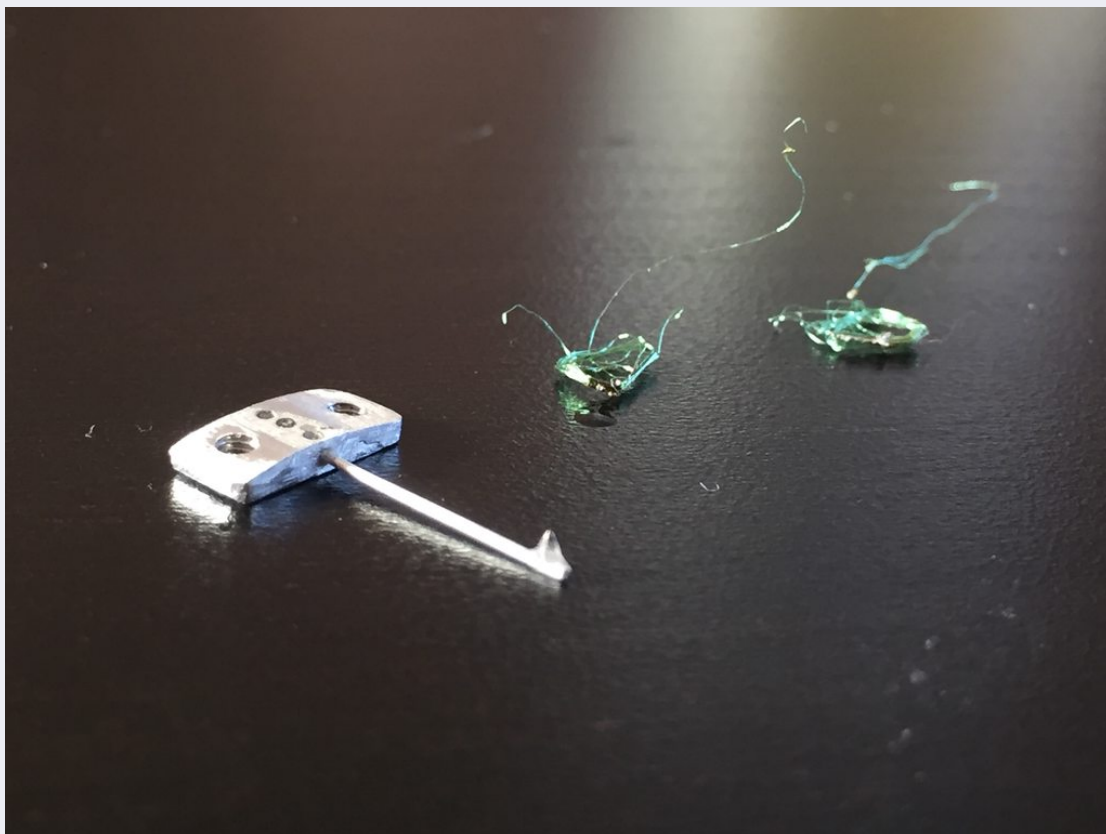
Location: Russia

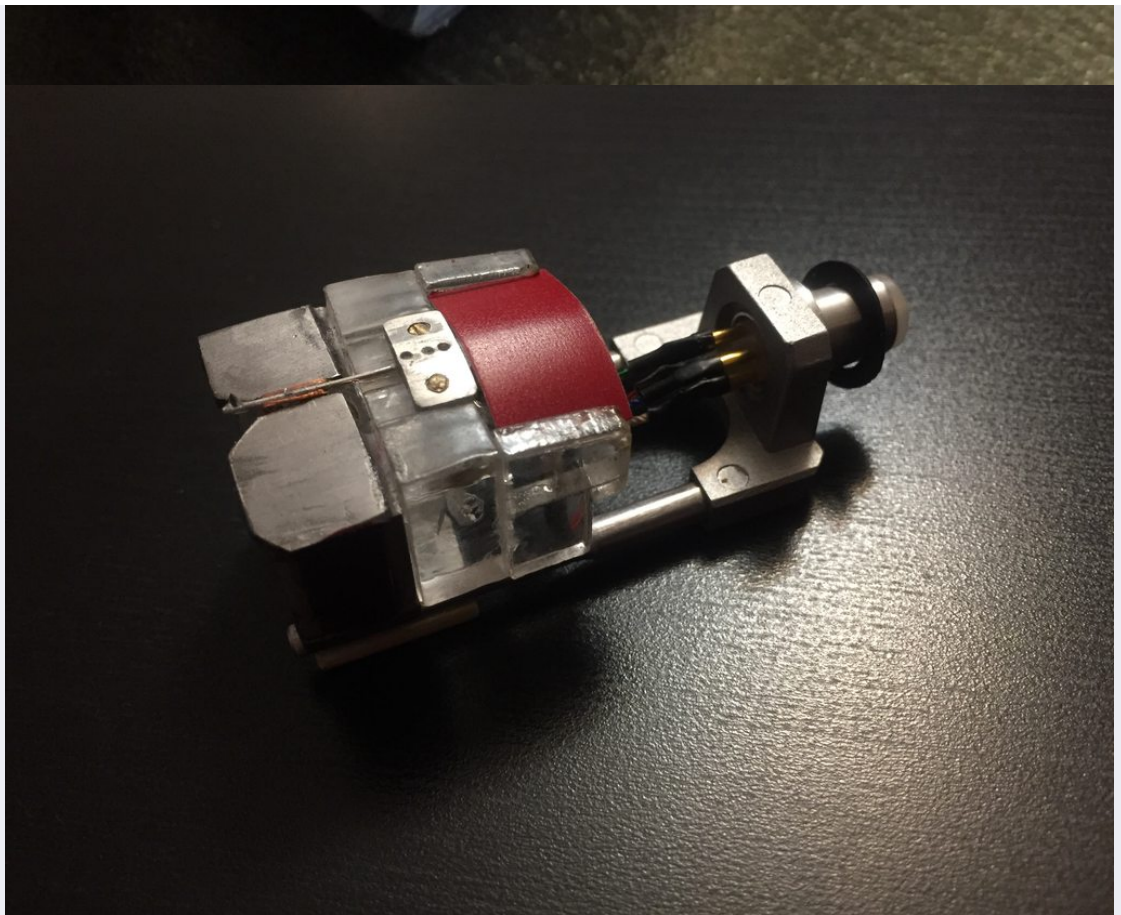
Posts: 195




Re: Neumann DST copy???

« Reply #306 on: December 26, 2021, 02:43:16 PM »





« Last Edit: January 21, 2022, 08:50:50 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

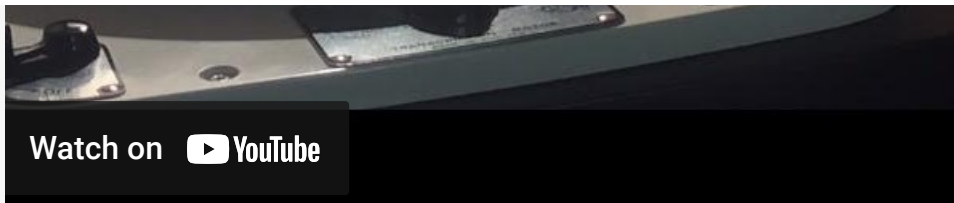


Re: Neumann DST copy???

« Reply #307 on: December 28, 2021, 08:27:42 AM »

testing has shown: the output level is very high, the sound is accurate, detailed with excellent articulation, good stereo effect. Disadvantage: accented high frequencies. Sibilants appeared. Deaf recordings are very good at pulling out, on ordinary recordings you need to suppress high ones with the tone control.





« Last Edit: March 17, 2022, 04:59:46 AM by Vintagepsych »

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32




Re: Neumann DST copy???

« Reply #308 on: December 28, 2021, 09:39:13 AM »

May be very high output overloads phono preamp? I think next step in the experiments should be decreasing size and number of coils. As to my experiments, they show that position of cantilever (with coils) affects level of high frequencies (and stereo separation). Moving them up deeper in between two yoke increases bass and decreases HF and stereo separation (if too deep - cartridge becomes mono), moving down outside of yoke decreases bass, and increases HF and stereo separation. Now I understood why Neumann introduced vertical bar - it keeps constant deepness of coils in between two yoke.

« Last Edit: December 28, 2021, 09:59:42 AM by walterwalter »

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #309 on: December 28, 2021, 09:52:52 AM »

Yes, there is a dependence on the height of the coils relative to the pole pieces.

 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32




Re: Neumann DST copy???

« Reply #310 on: December 28, 2021, 10:04:45 AM »

As to your ALNICO and electromagnet cartridges, are there sonic coloration differences between them, or only output level differs?

« Last Edit: December 28, 2021, 05:11:21 PM by walterwalter »

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

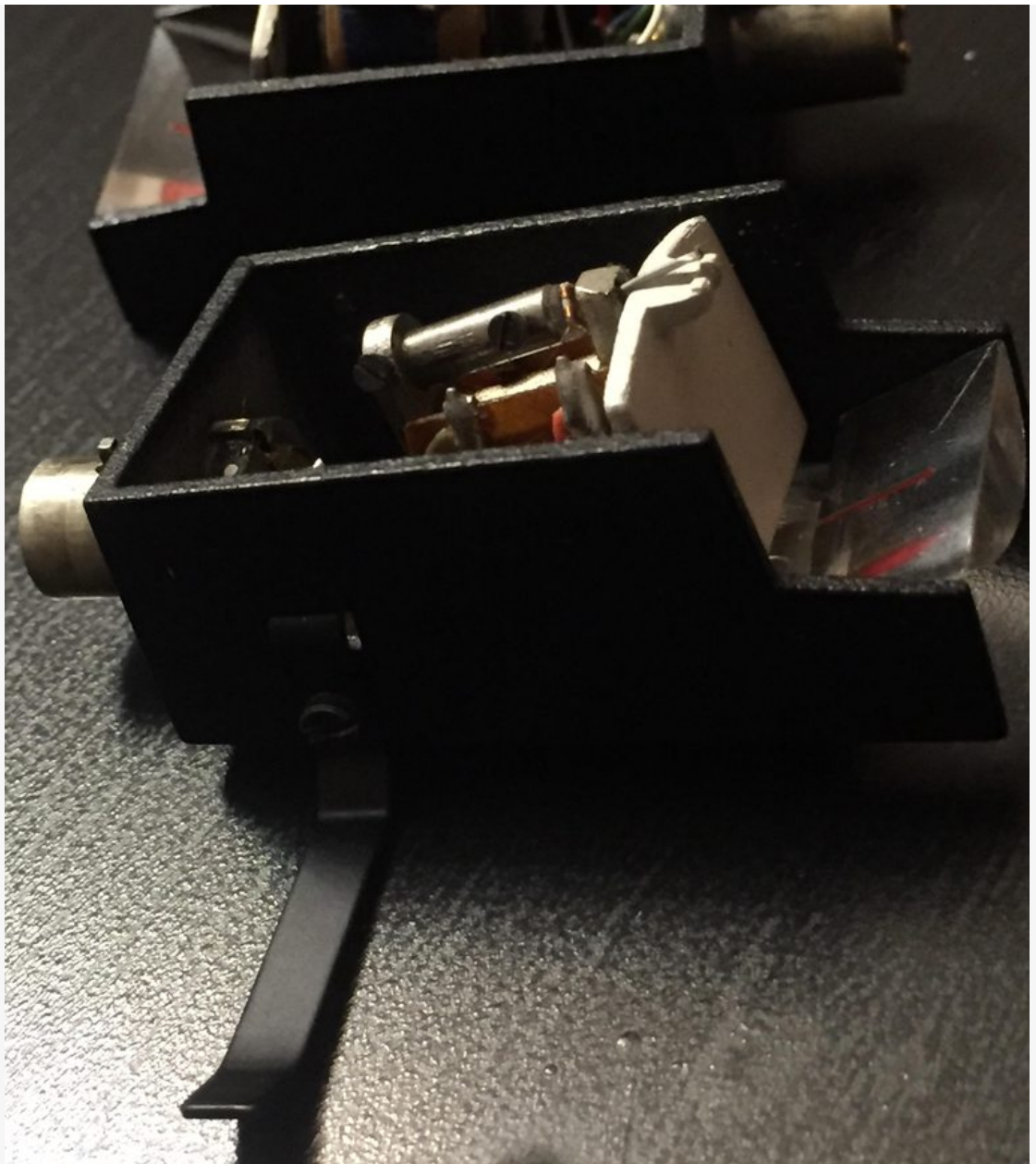


Re: Neumann DST copy???

« Reply #311 on: December 28, 2021, 03:19:51 PM »

test: comparison of EMT TSD 15 on ALNICO and EMT TSD 15 on FIELD COIL. FIELD COIL applied a voltage of 18 v (1.2 W) listening to "Hey You" Pink Floyd "The Wall". sounding flawless! powerful, tight bass, clear vocals, crisp and clear cymbals. then put this song TSD 15 on ALNICO. Compared to FIELD COIL:





bass is slightly rough, indistinct, the voice is slightly obscured, as if, because of the curtain, the cymbal is muddy, sometimes you can't hear it.

« Last Edit: December 28, 2021, 03:44:40 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

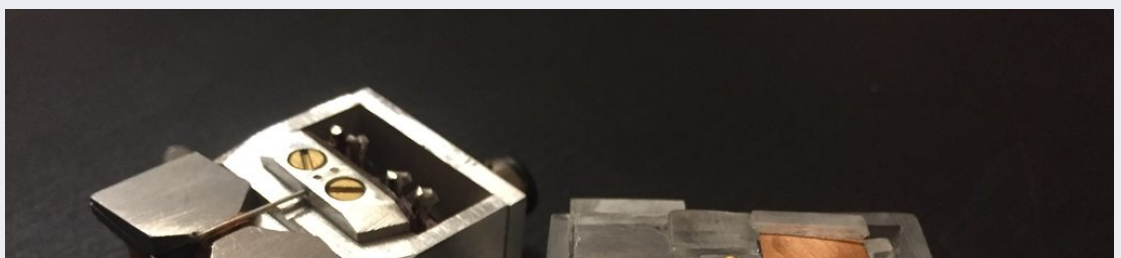
Posts: 195

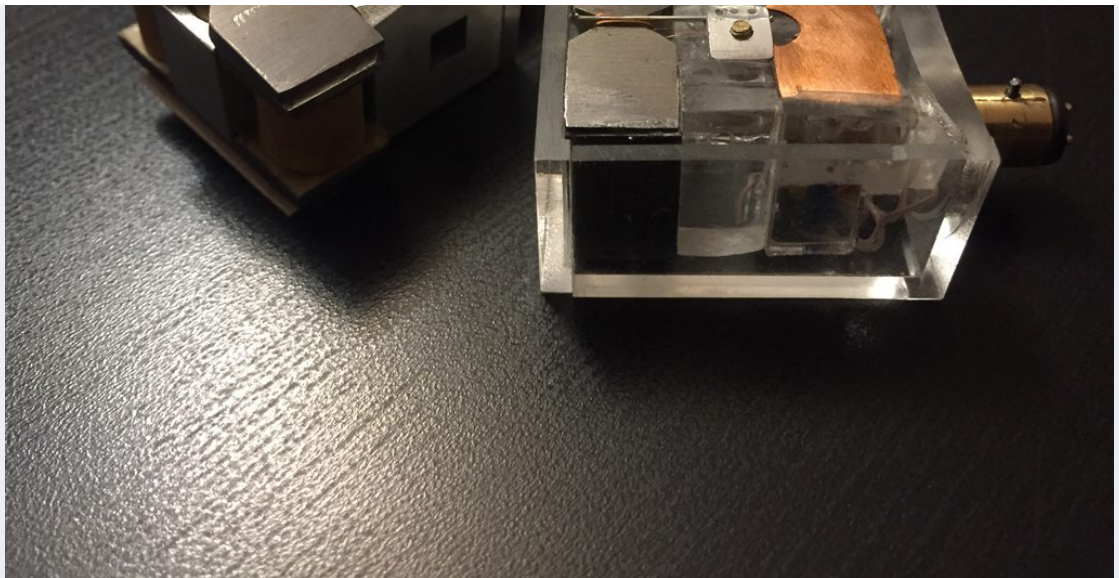


Re: Neumann DST copy???

« Reply #312 on: December 28, 2021, 04:44:17 PM »

second test: comparison of Neumann DST Copy ALNICO and NEUMANN DST Copy FIELD COIL. This time, the difference in sound was significantly less than in the first test. Or rather, it was almost not there.





 Logged

Yuriy

walterwalter

Member



☐ Offline

Posts: 32




Re: Neumann DST copy???

« Reply #313 on: December 28, 2021, 05:36:13 PM »

Beautiful cartridges. I suppose that due to absence of permalloy core with the air coils (and so, absence of hysteresis curve and proper distortions) material and power of magnets should be irrelevant as to the sound colorations and distortions. And with such magnets, as yours, it is possible to achieve high compliance, low moving mass, and high output cartridge, without sacrificing the exceptionally good sound.

With modern magnets, permalloy core, is not mandatory anymore...IMHO, of course.

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia


Posts: 195



Re: Neumann DST copy???

« Reply #314 on: December 30, 2021, 10:51:11 AM »

Walter, have you experimented with the width of the gap? How does the gap width affect frequency response and stereo separation? Is there no analogy here with changing the height of the coils relative to the poles?

 Logged

Yuriy

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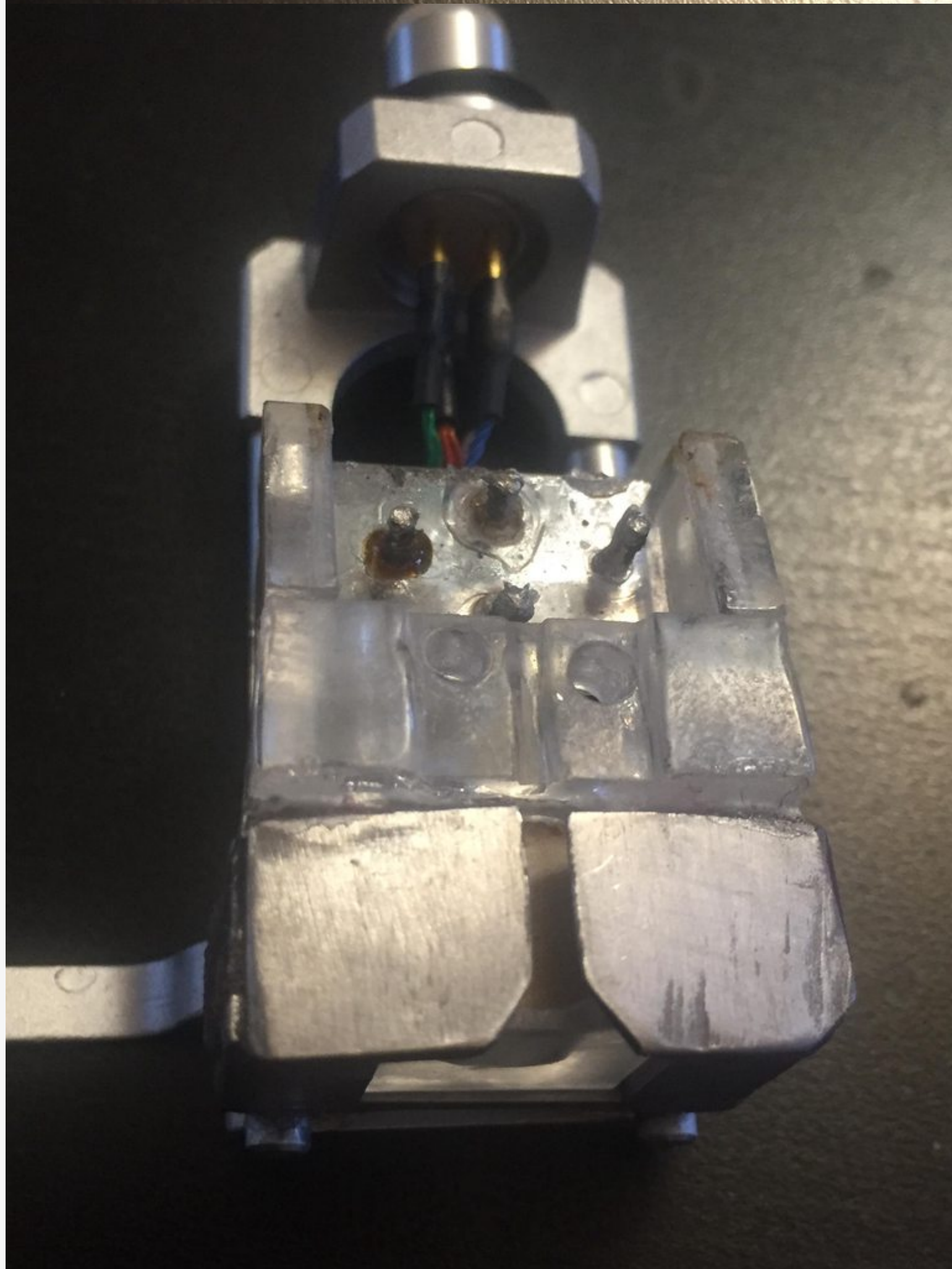
« previous next »

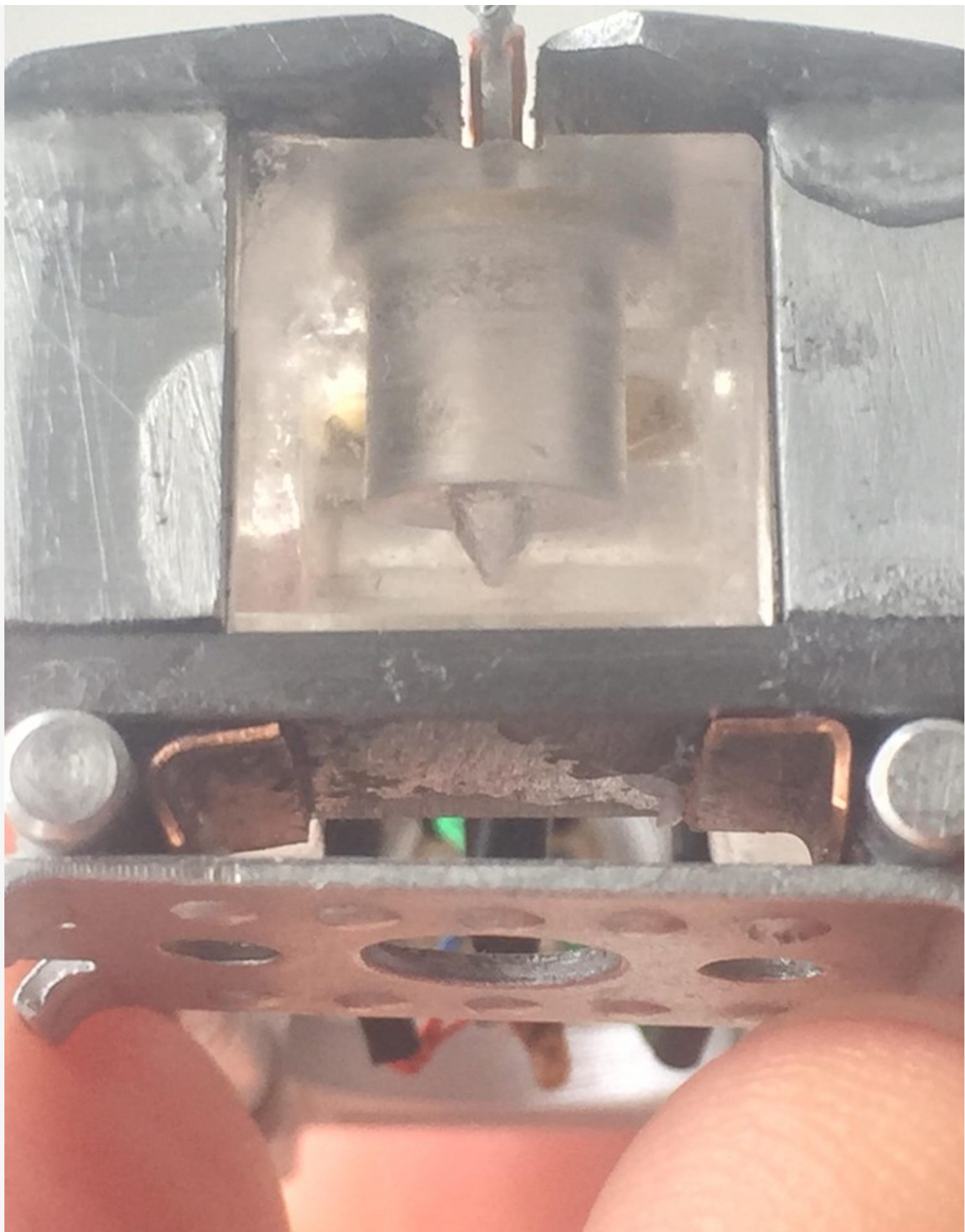
Jump to: => Cartridges and Styli

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Completed, connected. HOORAY!!! Works great. The sound is soft, warm, just like I wanted! But...



 Logged


Yuriy

« **Reply #318 on:** January 03, 2022, 04:25:09 PM »

 Logged

Yuriy

« **Reply #319 on:** January 03, 2022, 05:21:27 PM »

 Logged

« Reply #320 on: January 03, 2022, 06:55:37 PM »

 Logged

« **Reply #321 on:** January 03, 2022, 07:42:14 PM »

 Logged

Yuriy


« **Reply #322 on:** January 04, 2022, 01:40:18 PM »

Lately I wound coils with 20 turns (about 11 Ohms) and a mix of samarium and neodym magnets. I use 8x8x3mm magnets and stack three of them.



If in possibly three weeks I have a working cartridge finished I can post measurements if there is interest.

« *Last Edit: January 04, 2022, 05:55:09 PM by DanDanger* »

Best regards,
Daniel

 Logged

 Logged

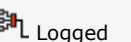
walterwalter
Member

 Offline
Posts: 32

 Logged

 Logged

DanDanger
Member

 Offline
Location: Berlin, Germany
Posts: 36

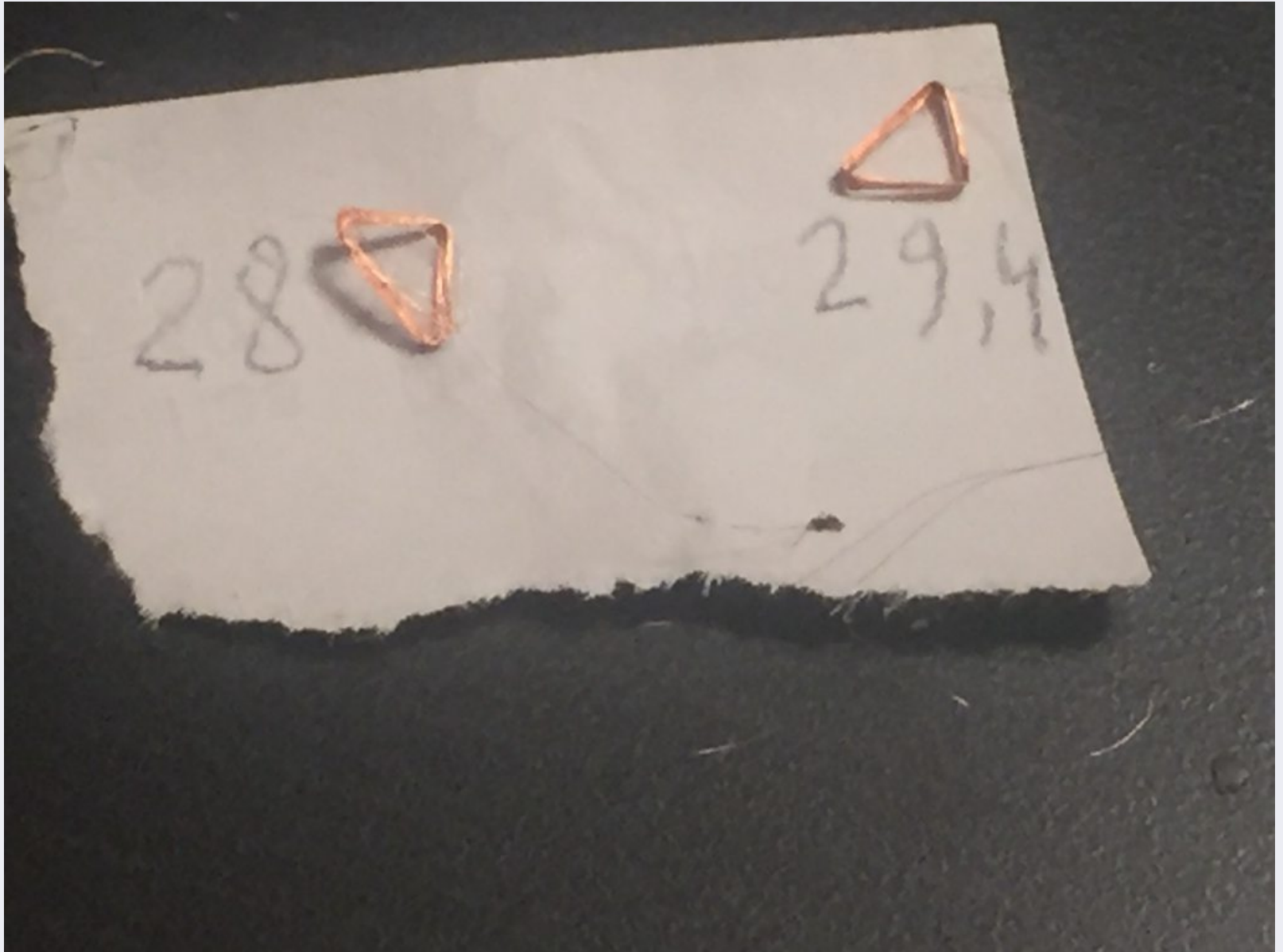


Vintagepsych
Member

☐ Offline
Age: 74
Location: Russia
Posts: 195



I am never limited to winding just two spools. I make about ten pieces. then, using two silver pins stuck in plexiglass, I measure the resistance of the coils and select the two coils that match the resistance as closely as possible. I do not do any actions to remove the varnish. the insulation is melted by the temperature of the molten tin. The tip of the soldering iron should be smooth, without chipping, so that the wire does not come off. Before any soldering, the soldering iron must be rosinized and cleaned with a wet piece of foam rubber. each coil is soldered to silver pins and its resistance is measured. during soldering, the coil leads are cleaned of varnish and tinned. After that, the coils are carefully unsoldered from the pins and are ready to be soldered onto the cartridge. Soldering of tinned wires in the cartridge is carried out in the same way.



« Last Edit: January 04, 2022, 09:50:41 PM by Vintagepsych »

Logged

Yuriy

DanDanger

Member



Offline

Location: Berlin, Germany
Posts: 36



Re: Neumann DST copy???

« Reply #327 on: January 04, 2022, 05:58:36 PM »

Thank you Yuriy, i built that tool of yours with two pieces of copper wire in plastic and suddenly tinning coils has become very easy.

Best regards,

Logged

Daniel

Vintagepsych

Member

☆☆☆

☐ Offline

Age: 74
Location: Russia
Posts: 195

Re: Neumann DST copy???

« Reply #328 on: January 05, 2022, 07:56:31 PM »

I'm glad Daniel. If you have any questions, please contact us. I can't wait to see and hear your work. I wish you success !!!

Yuriy

Andr039

Member

☆☆☆☆

☐ Offline

Location: Königsberg, Russia
Posts: 2,123

Re: Neumann DST copy???

« Reply #329 on: January 05, 2022, 08:34:47 PM »

this is indeed an ingenious thread and I watch all the builds here in astonishment.
But too complicated for the most of us.
However one SPU A mono left in a drawer is still waiting for the experiments 🤖

Andrey

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Jump to: => Cartridges and Styli

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Author

Topic: Neumann DST copy??? (Read 39324 times)

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« **Reply #330 on:** January 06, 2022, 02:29:06 PM »

Yuriy, thank you very much. Now thinning and soldering have become 10 times easier.
And I have forgotten to mention what my rubber blocks not only allow stylus-cantilever-coils assembly position adjustments. They also allow compliance adjustment from very low to very high, as well as azimuth and VTA correction. All the adjustments are quick and easy, and at the same time set position is stable after that.

« Last Edit: January 06, 2022, 02:38:35 PM by walterwalter »

Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

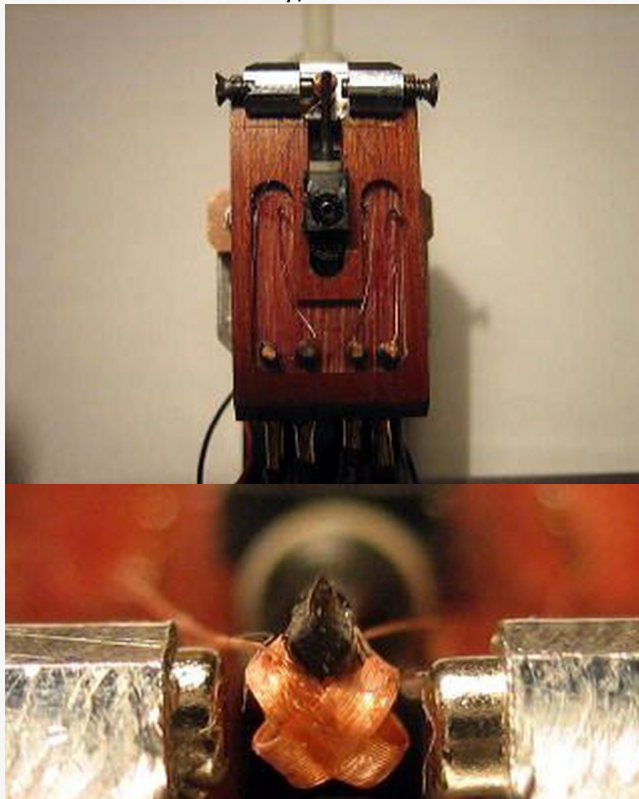
Posts: 195

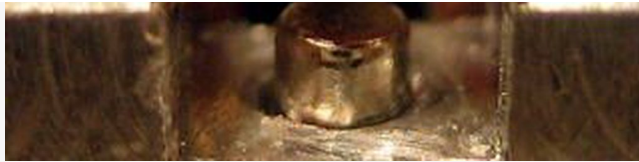


Re: Neumann DST copy???

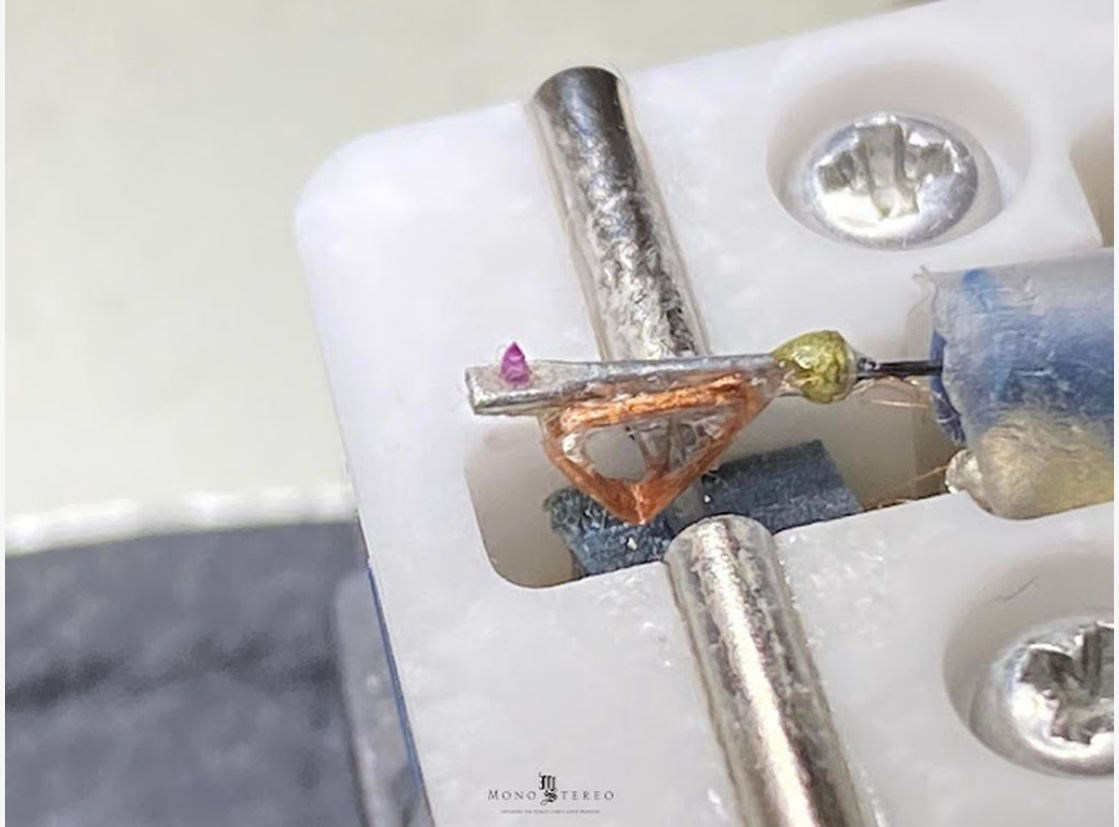
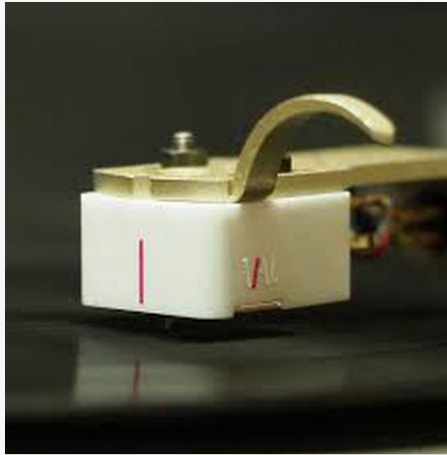
« **Reply #331 on:** January 06, 2022, 06:37:16 PM »

Thanks Walter. very cool. I have photos of products of Japanese masters. Unfortunately, i do not know the name of the author of this project:





Two talented craftsmen from Tokyo Masashi Miyake-san and Ohno-san made this project.



« Last Edit: February 26, 2023, 04:02:34 PM by Vintagepsych »

 Logged

Yuriy

BillWojo

Member



☐ Offline

Posts: 194



Re: Neumann DST copy???

« Reply #332 on: January 07, 2022, 03:05:49 AM »

@Vintagepsych, those are some great photo's. Do you know who made that?
Thanks

BillWojo

Vintagepsych

Member


☐ Offline

Age: 74

Location: Russia

Posts: 195


Re: Neumann DST copy???

« Reply #333 on: January 07, 2022, 03:23:37 AM »

Downloaded from Japanese sites. These works are worthy of respect!

« Last Edit: February 23, 2023, 05:36:58 AM by Vintagepsych »

Yuriy

walterwalter

Member

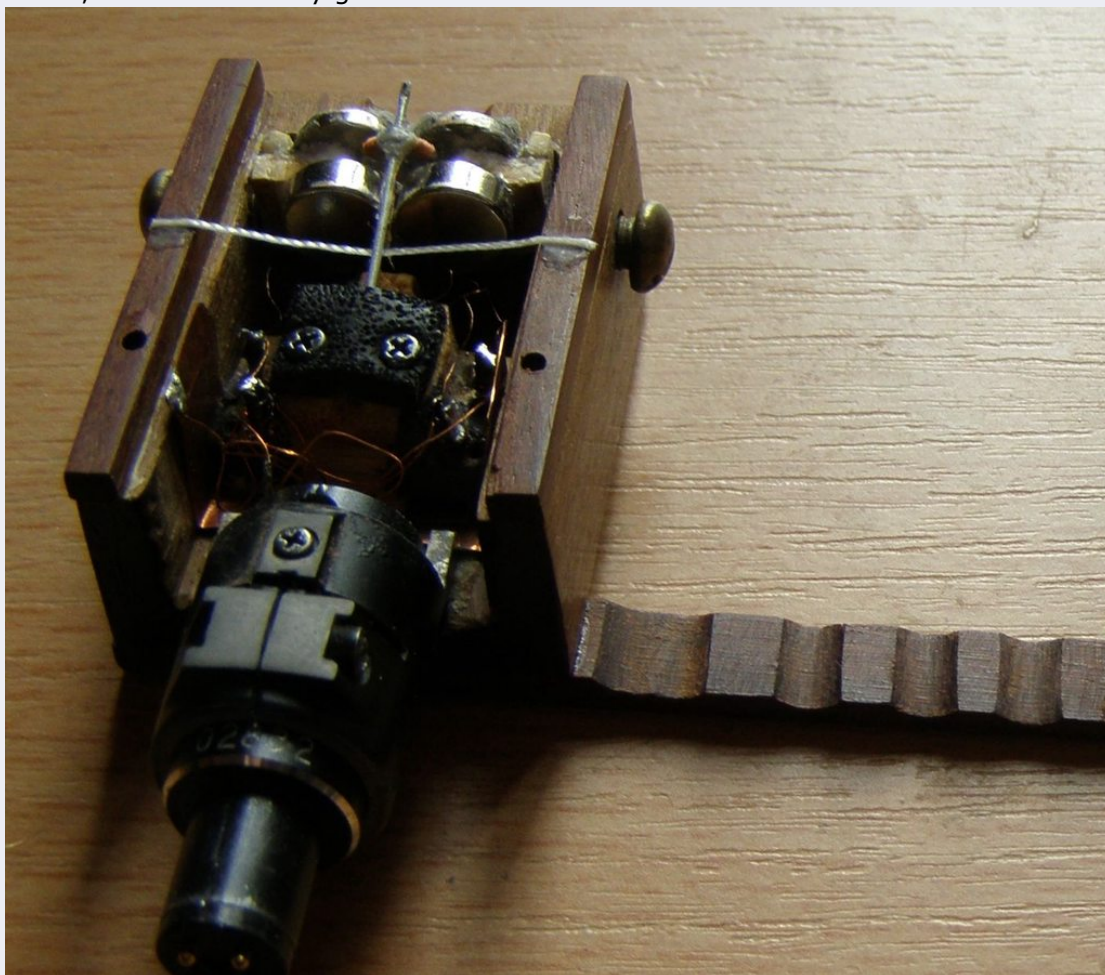

☐ Offline

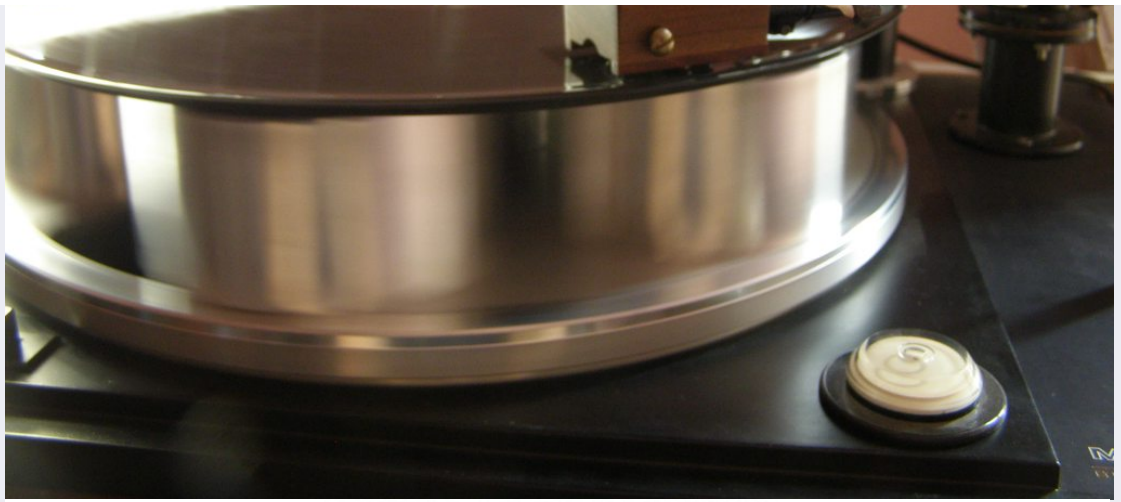
Posts: 32


Re: Neumann DST copy???

« Reply #334 on: January 11, 2022, 09:42:32 PM »

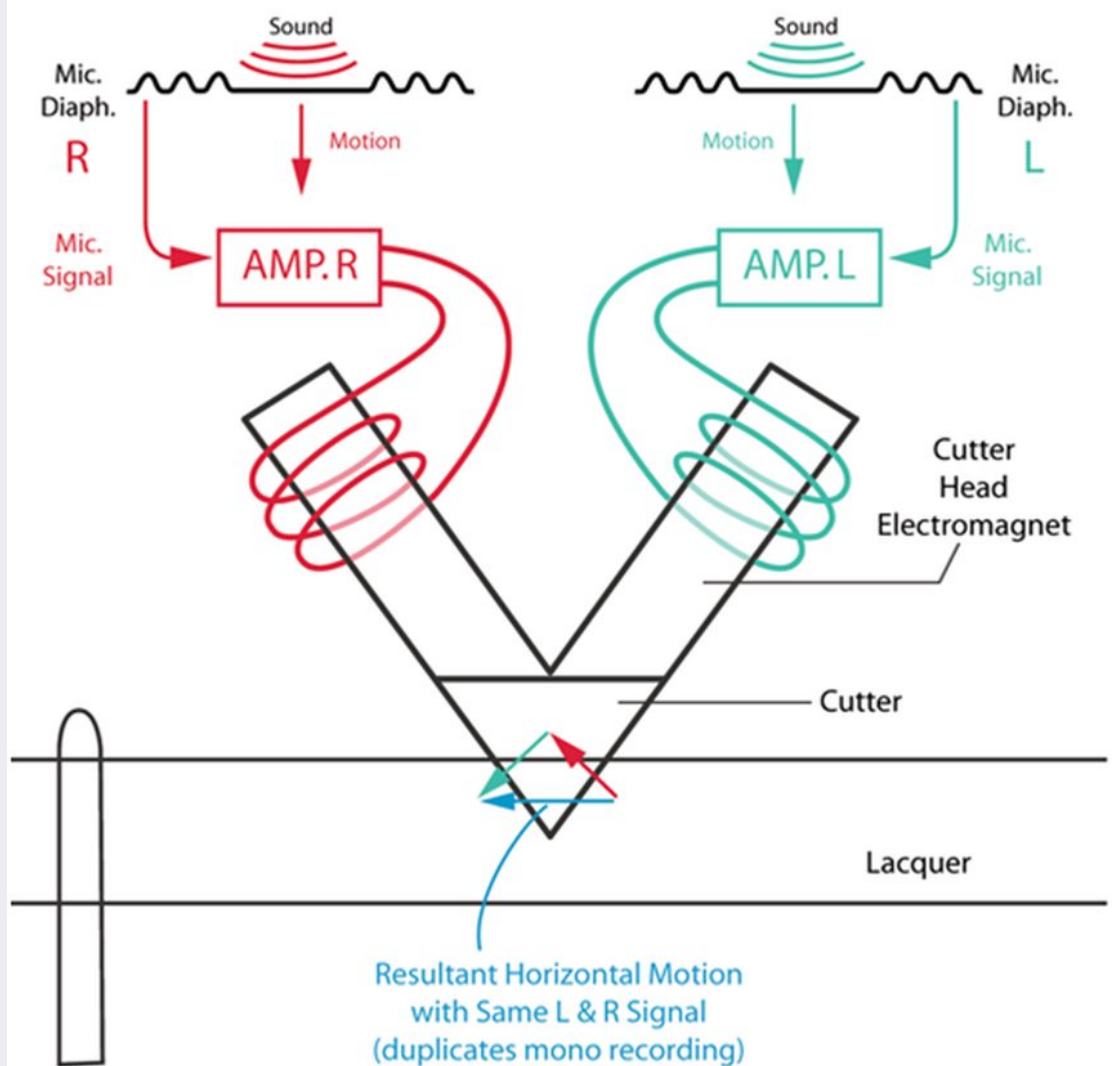
One of my experimental cartridges (very old version). Looks evil, but I'm not satisfied with the sound at all. Inspired by record cutter configuration. Later versions are much better, final version very good.





STEREO LP RECORDING

RIAA STANDARD



Logged

Vintagepsych

Member



Re: Neumann DST copy???

« Reply #335 on: January 11, 2022, 10:37:23 PM »

☐ Offline

Age: 74
Location: Russia
Posts: 195

I like. great idea. looks good. great job. what's wrong with the sound? how are the poles of the magnets? what is the size of the gap?
show your other work, please.

« Last Edit: January 12, 2022, 11:06:31 AM by
Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #336 on: January 13, 2022, 10:50:20 AM »

a soap opera using samarium-cobalt magnets ended in nothing. result: two broken needles and a lot of wasted time.



 Logged

Yuriy

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #337 on: January 13, 2022, 11:36:09 AM »

Yuriy, but this is the experience you may get from your attempts only.

And that's why this thread is so valuable! 🤔



 Logged

Andrey

Vintagepsych

Member

☐ Offline

Age: 74

Location: Russia

Posts: 195

**Re: Neumann DST copy???**

« Reply #338 on: January 13, 2022, 02:24:33 PM »

Yes, Andrey, a negative result is no less experience than a positive one. I honestly tried to complete the project based on samarium-cobalt magnets, but now I am convinced that such magnets are unacceptable in this project.

« Last Edit: January 14, 2022, 06:01:16 PM by Vintagepsych »

Logged

Yuriy

DanDanger

Member

☐ Offline

Location: Berlin,

Germany

Posts: 36

**Re: Neumann DST copy???**

« Reply #339 on: January 14, 2022, 10:27:04 AM »

Was there a technical problem with the samarium cobalt magnets, or were you objectively unsatisfied with the sound?

Logged

Best regards,
Daniel

walterwalter

Member

☐ Offline

Posts: 32

**Re: Neumann DST copy???**

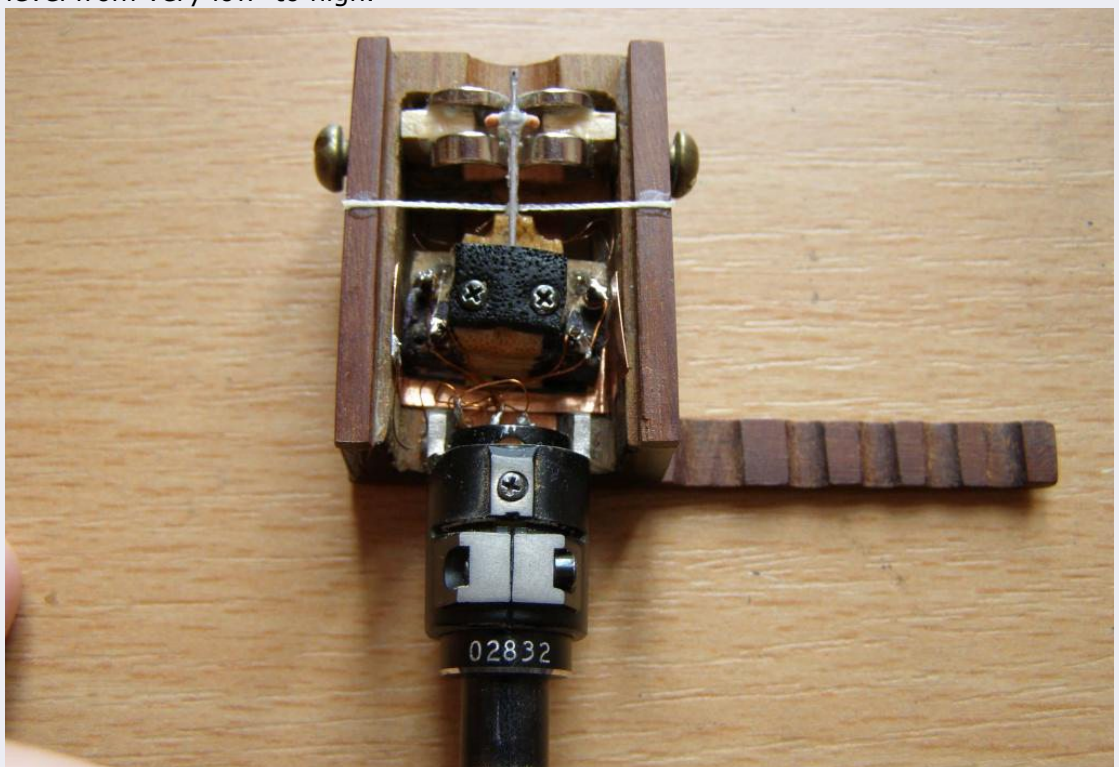
« Reply #340 on: January 14, 2022, 11:27:14 AM »

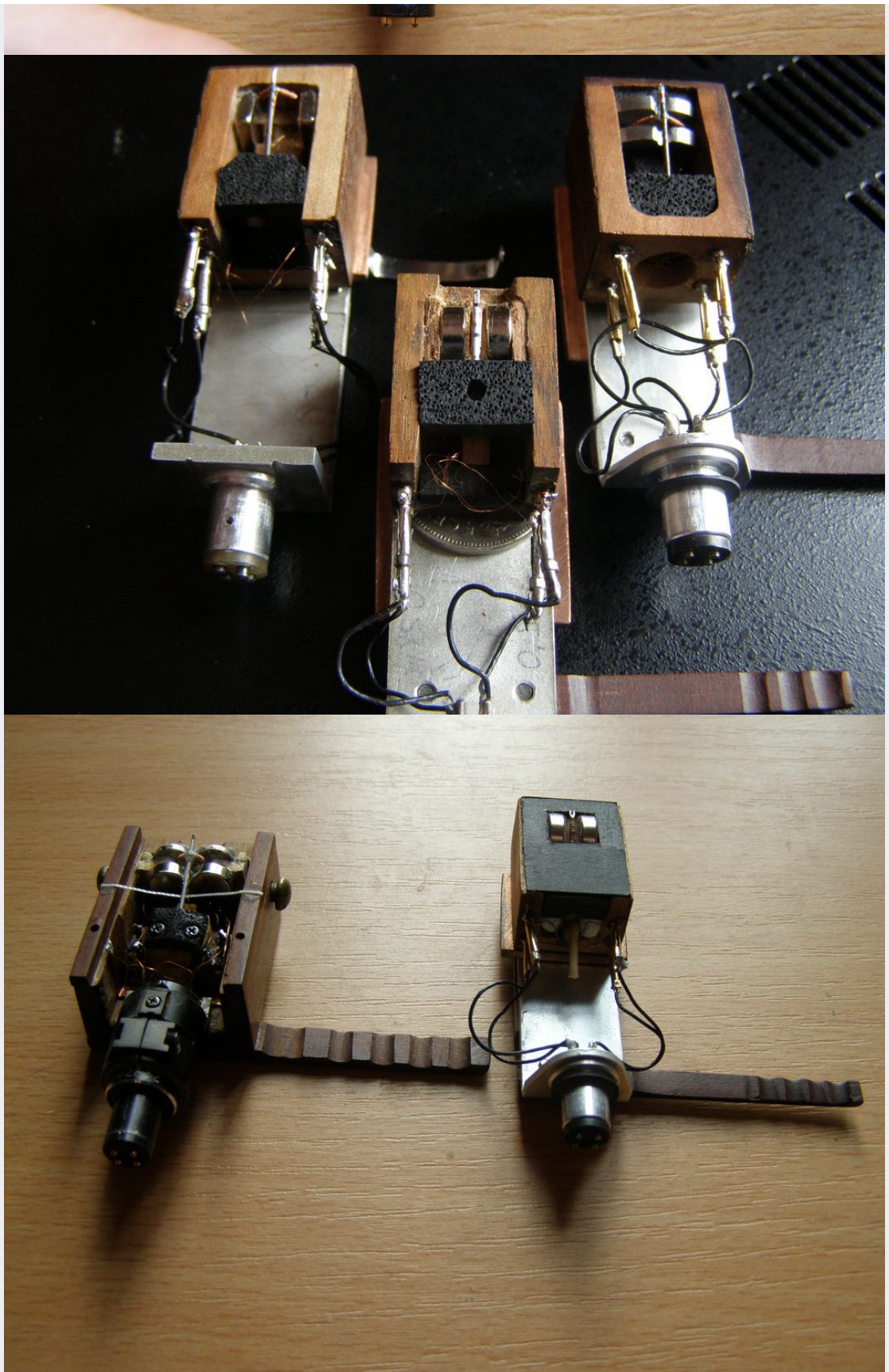
Quote from: Vintagepsych on January 11, 2022, 10:37:23 PM

I like. great idea. looks good. great job. what's wrong with the sound? how are the poles of the magnets? what is the size of the gap?
show your other work, please.

Yuriy, The sound was too bright, and somewhat distorted. Magnet poles (opposite poles for each coil are in front of each other) of that configuration just do not cross the coils at correct angles. Magnetic lines visualizer would be of great assistance, however, existing ones aren't good for that application. Now I'm trying to build my own, a very small one. It is really challenging task.

As to my other carts, I've already posted them here. And here they are again. Three of them sounding really good, on the same level with Ortofon SPU or EMT TSD15. Output level from very low to high.





Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia



Re: Neumann DST copy???

« Reply #341 on: January 14, 2022, 06:06:29 PM »

Thanks Walter. Excellent work!

Posts: 195

« Last Edit: January 18, 2022, 03:30:22 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #342 on: January 18, 2022, 03:06:52 PM »

Quote from: DanDanger on January 14, 2022, 10:27:04 AM

Was there a technical problem with the samarium cobalt magnets, or were you objectively unsatisfied with the sound?

Daniel, I'm sorry late answer. Essentially, my project has a well-defined size for the magnets. I used samarium-cobalt magnets of the right size, but they were too strong. The magnets either attracted small parts to the gap or dragged the tonearm towards the disc spindle when the stylus was in the lead-out groove. Once a nickel coin was pulled into the gap, which I, unfortunately, used as a load. Broke the needle. In another case, the head was forced against the steel spindle of the disk, and this also caused the needle to break. I think that with smaller magnets and less strength, such problems could be avoided. As for the sound. The first thing I had to deal with was a very high level of sound from the cartridge. So high that it was necessary to reduce the sensitivity of the corrector at times. Second: it was necessary to increase the gap. With a small gap, the cartridge literally "whistled". But the increase in the gap, although it gave a more or less normal sound, but greatly worsened the stereo effect (the sound became similar to mono) and worsened localization. Currently, the cartridge is disassembled and is being prepared for a new project.

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #343 on: January 19, 2022, 01:51:37 PM »

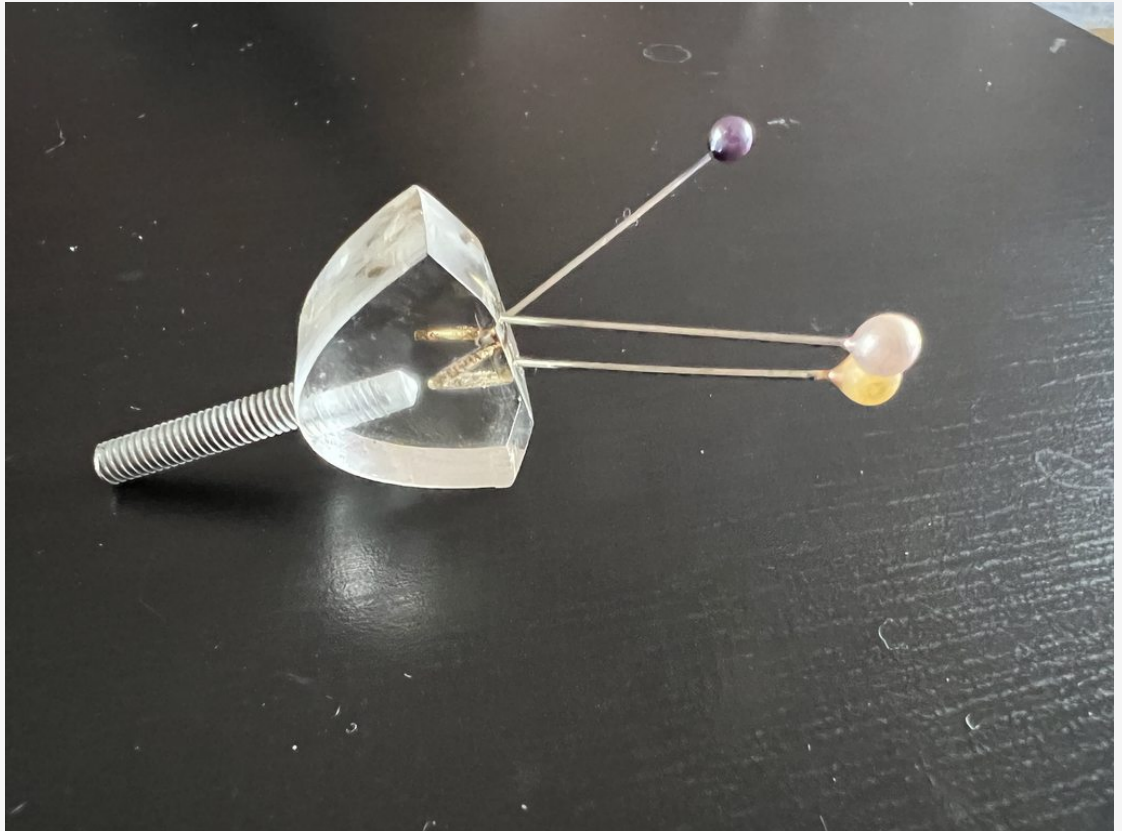
We start a new project.

I plan to use the body and motion system from a previous failed project with samarium cobalt magnets. This time the project is based on the field coil. During dismantling, the voice coils were damaged, so we will wind new coils.






For winding voice coils I use this tool





Coils are done. We choose the two most suitable in terms of resistance.

« Last Edit: January 30, 2022, 02:41:08 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

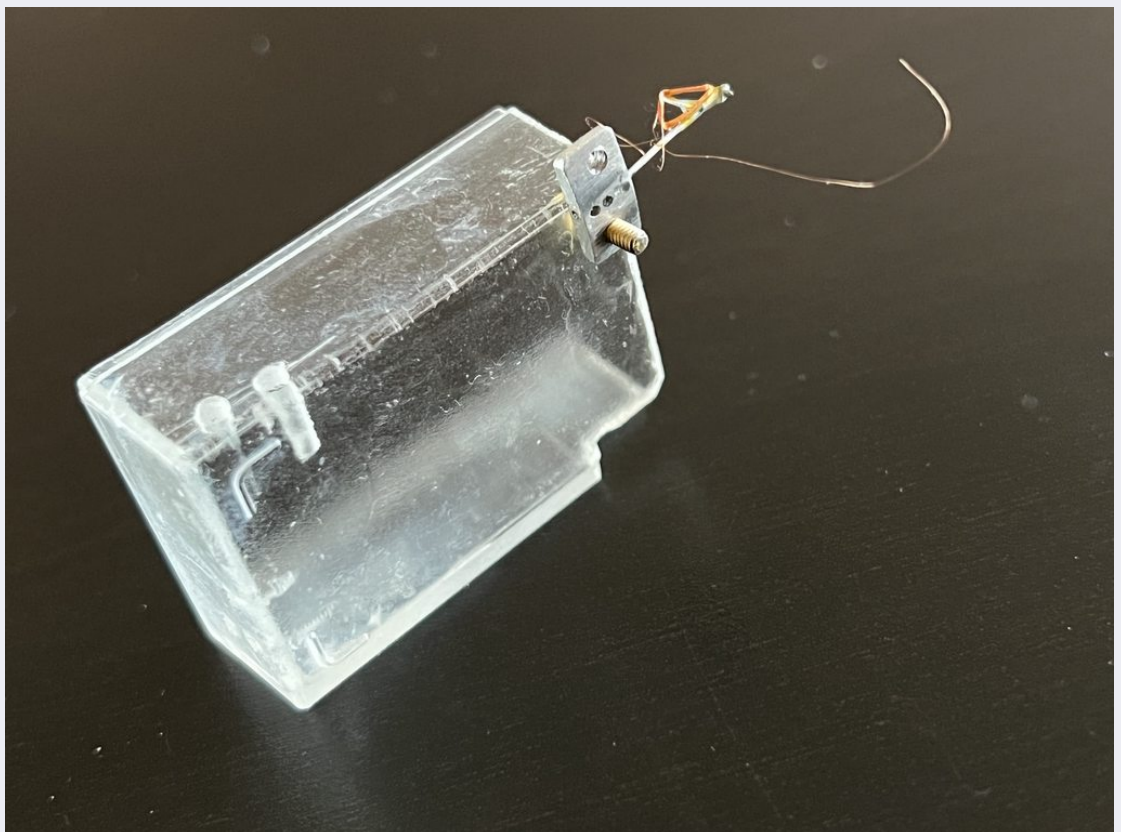
Posts: 195



Re: Neumann DST copy???

« Reply #344 on: January 20, 2022, 02:23:21 AM »

Glue the coils on the cantilever using a simple device



 Logged

Yuriy

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Author

Topic: [Neumann DST copy???](#) (Read 39325 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

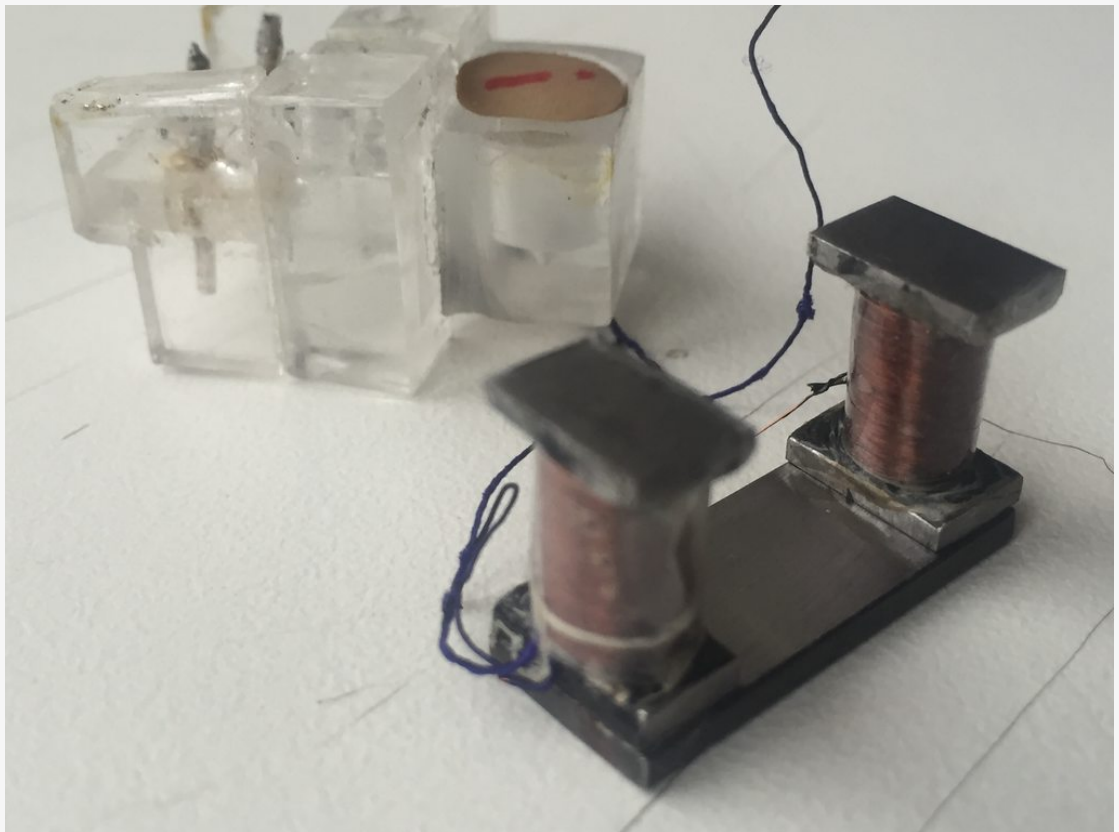
Posts: 195



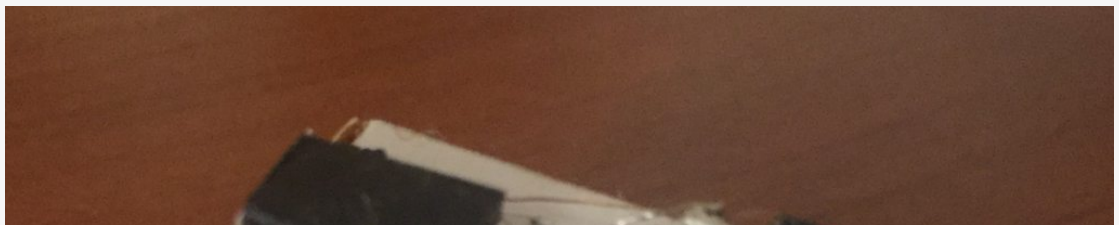
Re: Neumann DST copy???

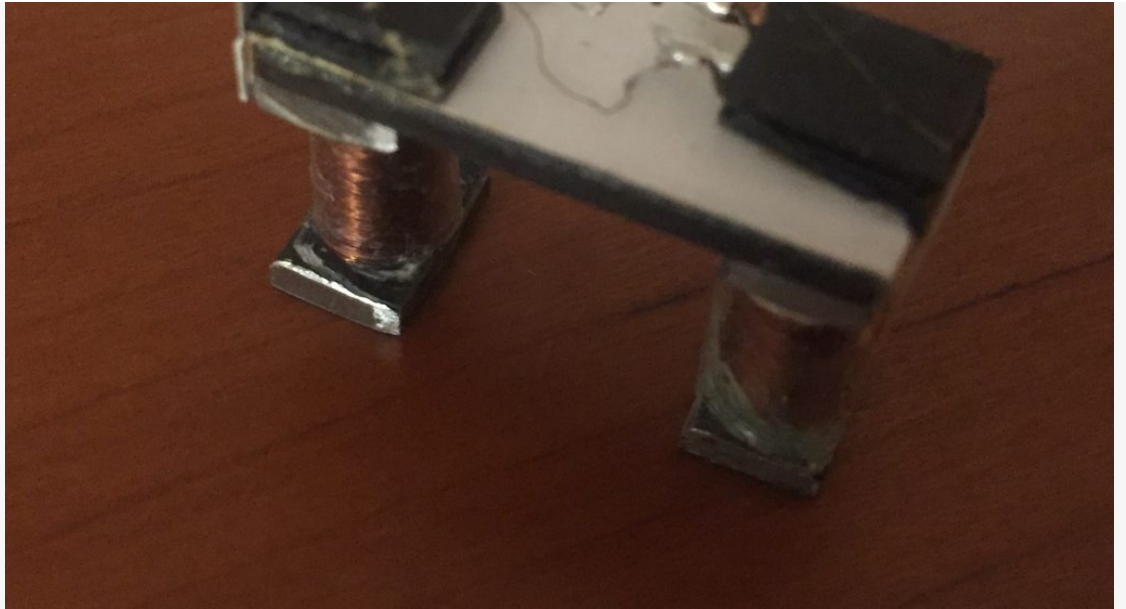
« **Reply #345 on:** January 20, 2022, 10:14:36 PM »

The basis of this our project is electromagnets. We wind the coils of electromagnets with a wire of 0.05 mm. We assemble the magnetic system.

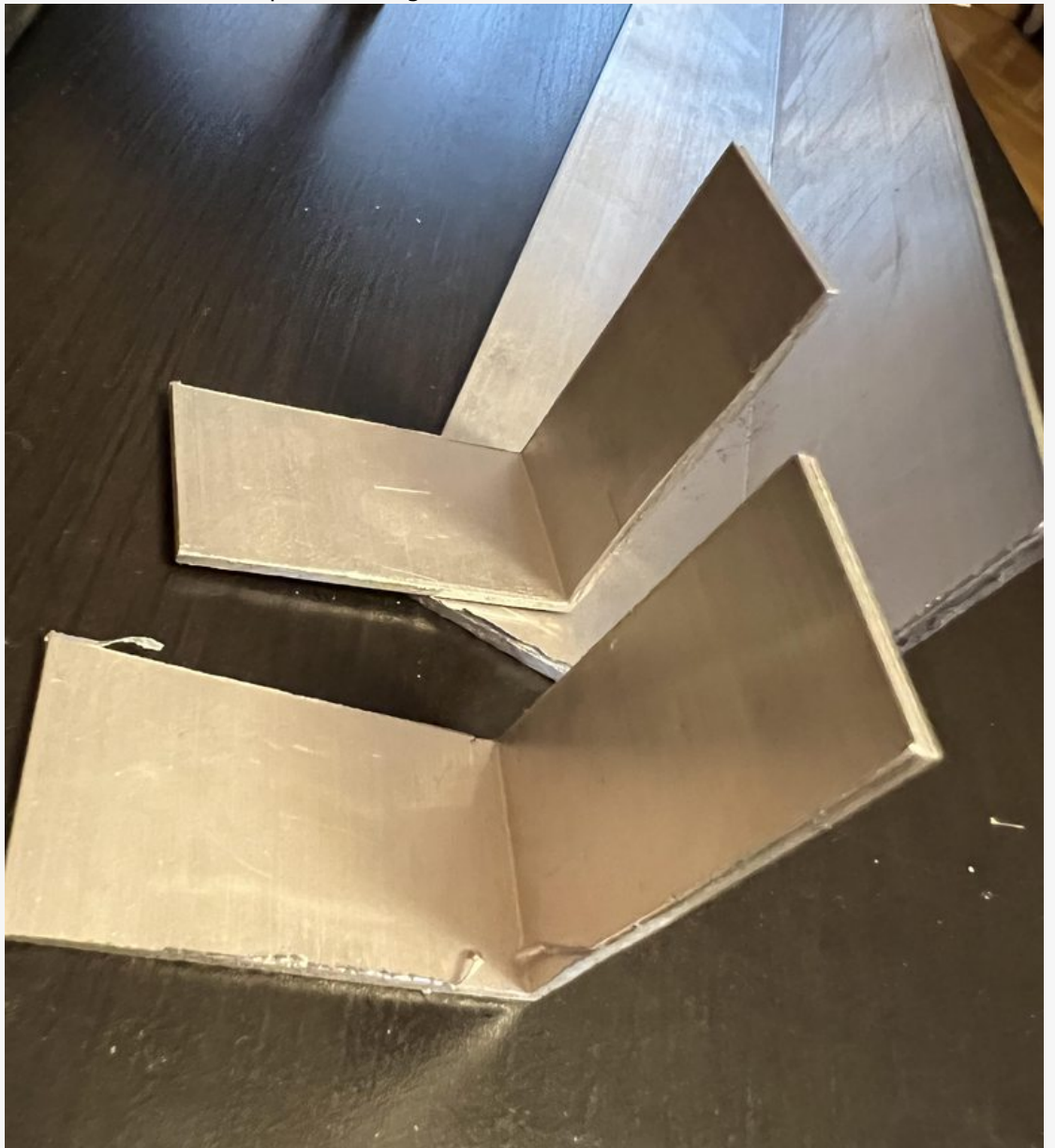


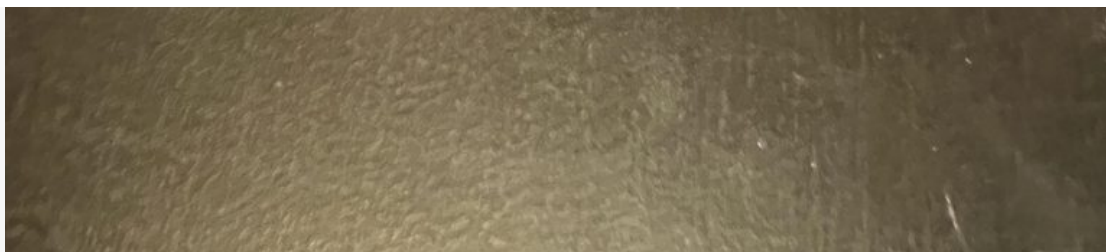
We connect the electromagnets in parallel and connect the power connector.





To protect the wires from damage, we make a beautiful red cap and glue it. We begin to make a shell of a special configuration. We use an aluminum corner as a material.





The main elements of the cartridge are ready. We do pre-assembly.



« Last Edit: February 24, 2023, 10:13:28 PM by
Vintagepsych »

 Logged

Vintagepsych

Member



Offline

Age: 74

Location: Russia

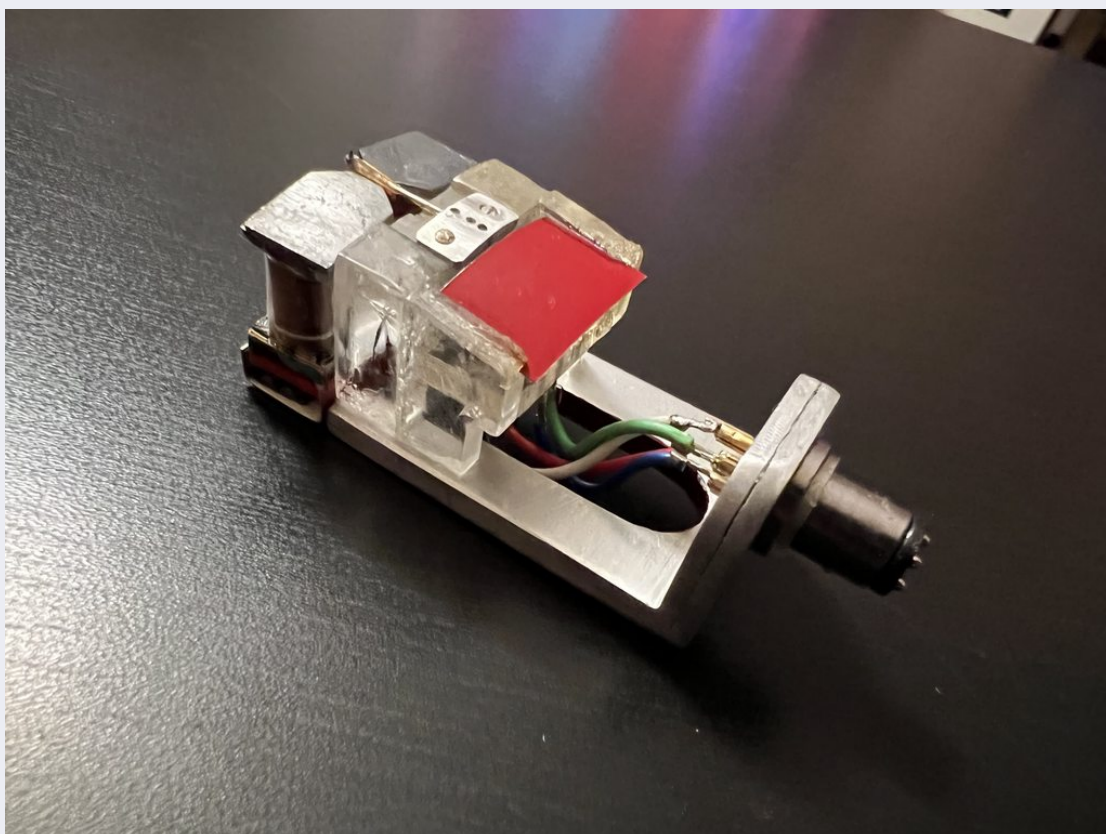
Posts: 195



Re: Neumann DST copy???

« Reply #346 on: January 21, 2022, 06:21:35 PM »

After the shell is made, we make the final assembly of the cartridge. Assembled. Looks good.





« Last Edit: May 21, 2023, 06:48:00 PM by
Vintagepsych »

Logged

Yuriy

Andr039

Member



☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Re: Neumann DST copy???

« Reply #347 on: January 21, 2022, 06:51:13 PM »

Yuriy, fantastic as usual! 🤖

What power supply do you use for the field coils? whats the inductance of the coils?

best,

Logged

Andrey

Vintagepsych

Member



☐ Offline

Age: 74
Location: Russia
Posts: 195



Re: Neumann DST copy???

« Reply #348 on: January 21, 2022, 08:04:54 PM »

Hi Andrey! I used a laboratory power supply. Voltage 1.5 volts! Current 0.01 Amp.
Electromagnets are wound with wire 0.05 mm 6000 turns. Gap between pole piece and voice coil 0.2 mm. The signal level from the cartridge is 6 - 10 dB lower than on a conventional cartridge (possibly less).

« Last Edit: April 29, 2023, 06:24:22 PM by
Vintagepsych »

Logged

Yuriy

Andr039

Member



Re: Neumann DST copy???

« Reply #349 on: January 21, 2022, 09:25:25 PM »

☐ Offline

Location:
Königsberg, Russia
Posts: 2,123



Quote from: Vintagepsych on January 21, 2022, 08:04:54 PM

Hi Andrey! The video were filmed using an iPhone. I used a laboratory power supply. Voltage 1.5 volts! Current 0.01 Amp. Electromagnets are wound with wire 0.05 mm 6000 turns. Gap between pole piece and voice coil 0.2 mm. The signal level from the cartridge is 3 - 6 dB lower than on a conventional cartridge (possibly less). Downforce when I shot this video, was 1.0 grams.

Thank you, Yuriy. Very useful info!
and nice video, btw
best,

Logged

Andrey

DanDanger

Member



☐ Offline

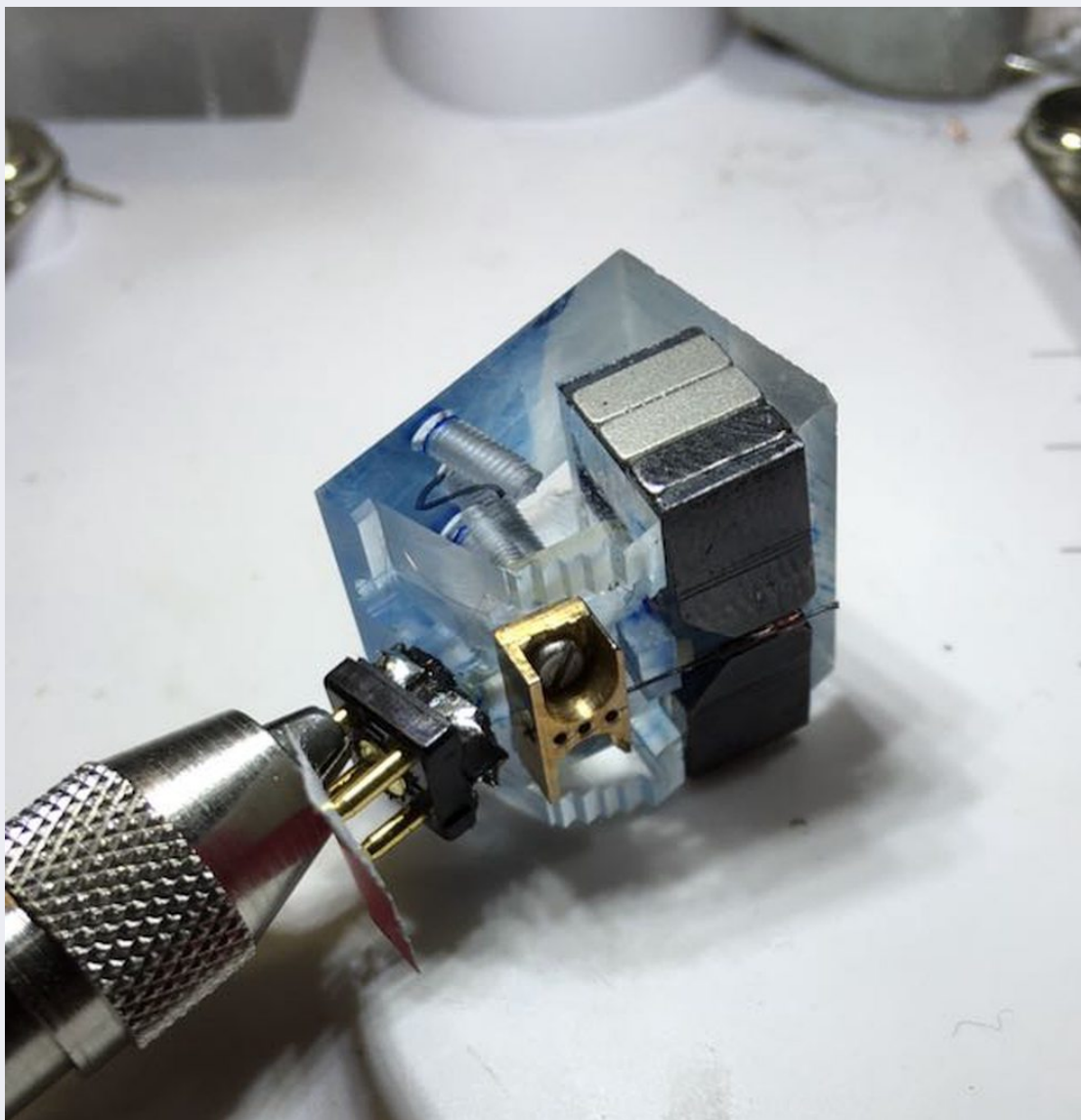
Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« **Reply #350 on:** February 09, 2022, 08:24:03 AM »

After some setbacks I finished my cartridge last night. Highs and mids are very clear but I have severe resonance issues and it is jumping around the grooves. Changing tracking weight (I tried a range from 1.8 to 4.5g) didn't change anything. So there isn't much to say about how it sounds. Output is pretty high with 23 turns (10 Ohm DCR).



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Best regards,
Daniel

walterwalter

Member



☐ Offline

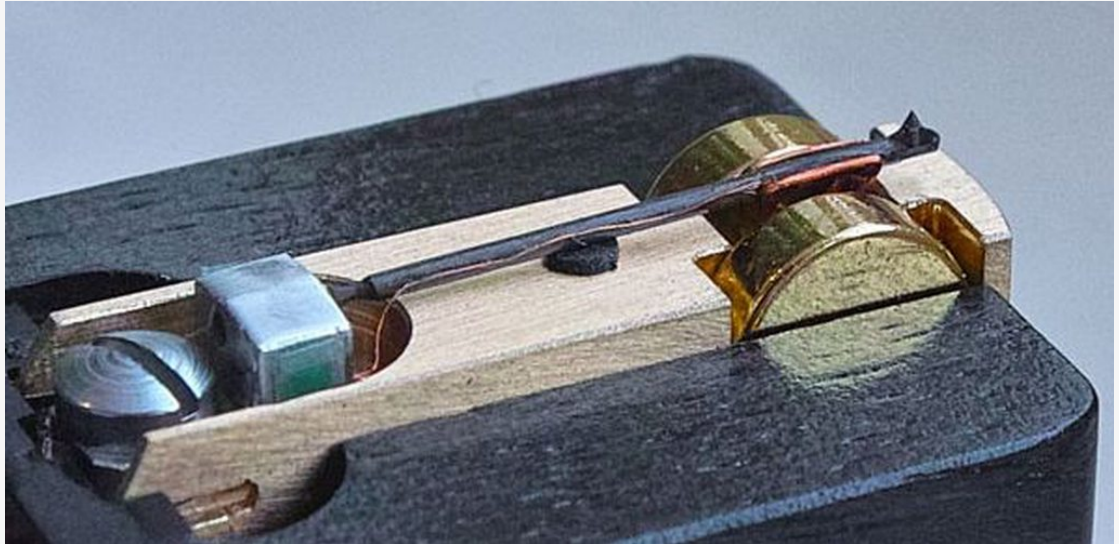
Posts: 32



Re: Neumann DST copy???

« Reply #351 on: February 09, 2022, 11:08:33 AM »

Hi, Daniel. If we look close to Sinitsyn's Tsar-2, we can see his solution of compliance and resonance issues: he squeezed small rubber damper between cantilever and cartridge body. So, he could move damper forward-backward to change resonance and finally glue it when desirable result achieved.



As with my cartridges, my rubber block allows changing compliance as well as other parameters. However, some resonance issues remained undefeated until I've tried to shorten cantilever.

The whole platoon of DIY coreless MC, all sounding a bit different. 🤔



Logged

DanDanger

Member




Re: Neumann DST copy???

« Reply #352 on: February 09, 2022, 11:38:22 AM »

☐ Offline

Location: Berlin,
Germany
Posts: 36

Yuriy, Walter, thank you for your tips. I did copy Sinitsin's rubber damper but haven't had the time yet to play around with positioning.

 Logged

Best regards,
Daniel

DanDanger

Member



☐ Offline


Location: Berlin,
Germany
Posts: 36



Re: Neumann DST copy???

« Reply #353 on: February 17, 2022, 10:23:45 PM »

I changed the rubber for a much harder type and increased the size of the gap a bit and the cartridge is tracking fine now. Stereo imaging is as bad as can be and overall sound is worse than an Audio Technica AT95. But it is a start and I have ideas what to change.

 Logged

Best regards,
Daniel

walterwalter

Member



☐ Offline

Posts: 32



Re: Neumann DST copy???

« Reply #354 on: February 17, 2022, 11:06:53 PM »


Dandanger, absence of stereo separation is a sign what coils are too deep between the pole pieces. In such a position usually a lot of bass is present, and lack of HF as well as stereo image.

As to my cartridges, I finally got very good sonic results of most of them. One of crucial points is exact positioning of cantilever with coils between the poles, another is phono stage of highest quality available, as well as very good transformer. It only seems to be too self evident. All of my DIY cartridges just didn't want to sound better than Koetsu Black or Ortofon SPU, until I've tried real hi-end phono stage, borrowing it from a friend, and another case - just visiting another friend and listening my carts in a very advanced system and comparing them with Ortofon and EMT. In my own humble system with entry hi-end level tube phonostage my cartridges just didn't open up even to half of their abilities...

Regards,

Walter

« Last Edit: February 18, 2022, 05:25:20 PM by
walterwalter »

 Logged

Ciro Marzio

Member



☐ Offline

Posts: 11



Re: Neumann DST copy???

« Reply #355 on: February 19, 2022, 10:32:34 AM »

Very interesting work!

In case you or Walter need very high quality custom step up transformers, I will be glad to help

 Logged

DanDanger

Member



☐ Offline

Location: Berlin,
Germany
Posts: 36



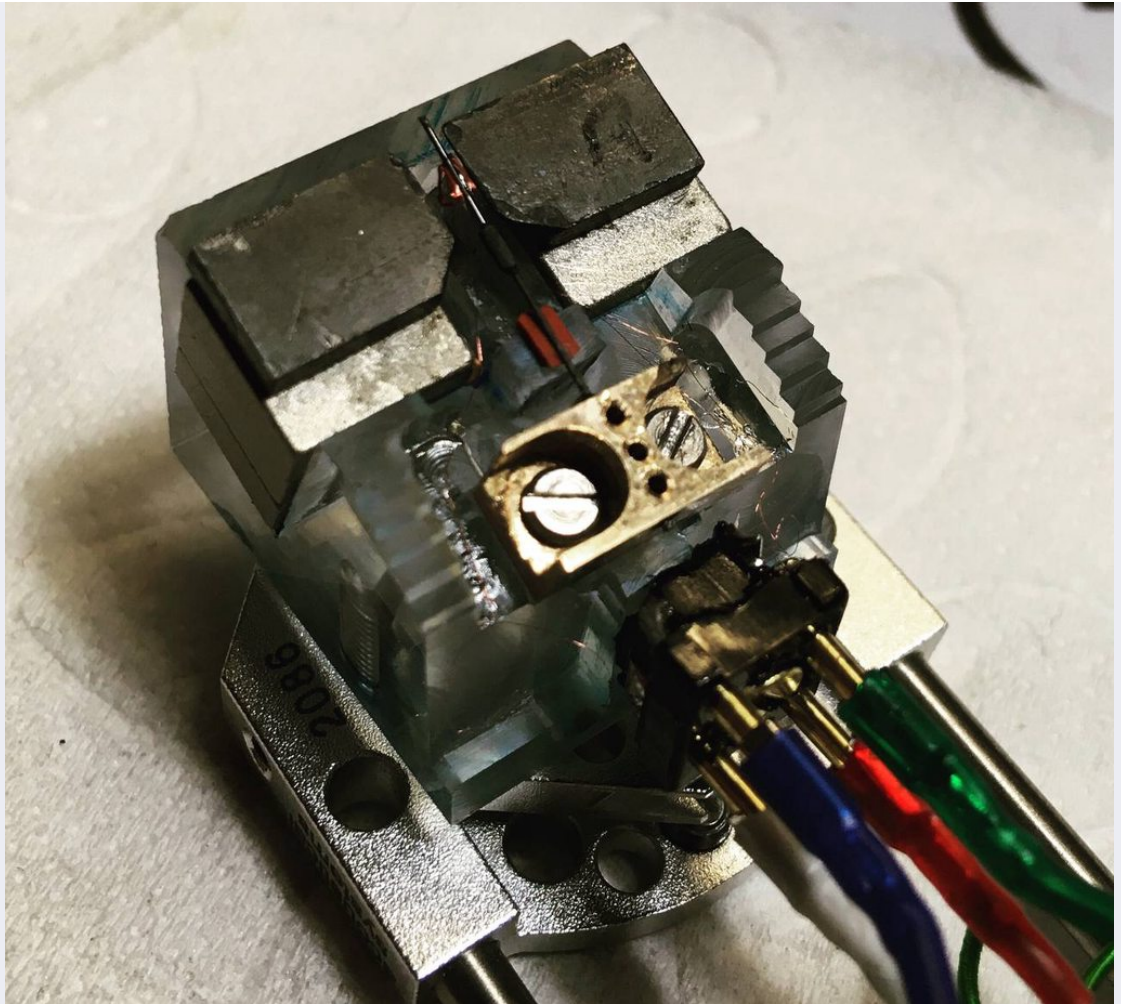
Re: Neumann DST copy???


« Reply #356 on: February 27, 2022, 02:17:00 PM »

I did change the magnets from a samarium cobalt/neodymium mix to all SmCo. I also had the strange sizzling that Yuriy described when going to SmCo magnets. This is gone now. When I started listening to the cartridge there was no bass which improved after one record. Tonality is still way off.

System resonance is currently at a low 8 Hz. I'll increase compliance and see what that does to sound.





 Logged

Best regards,
Daniel

Mantas35

Member



☐ Offline


Posts: 18



Re: Neumann DST copy???

« Reply #357 on: February 13, 2023, 10:44:15 AM »

Hello, guys, i will try to make one for myself 🤔 Could someone share cartridge body dimensions, as i need to start with this, the rest is visible in Yuri's posts. Another question before i start, have anybody succeeded in dying this cartridge apart from Yuri? 🤔

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

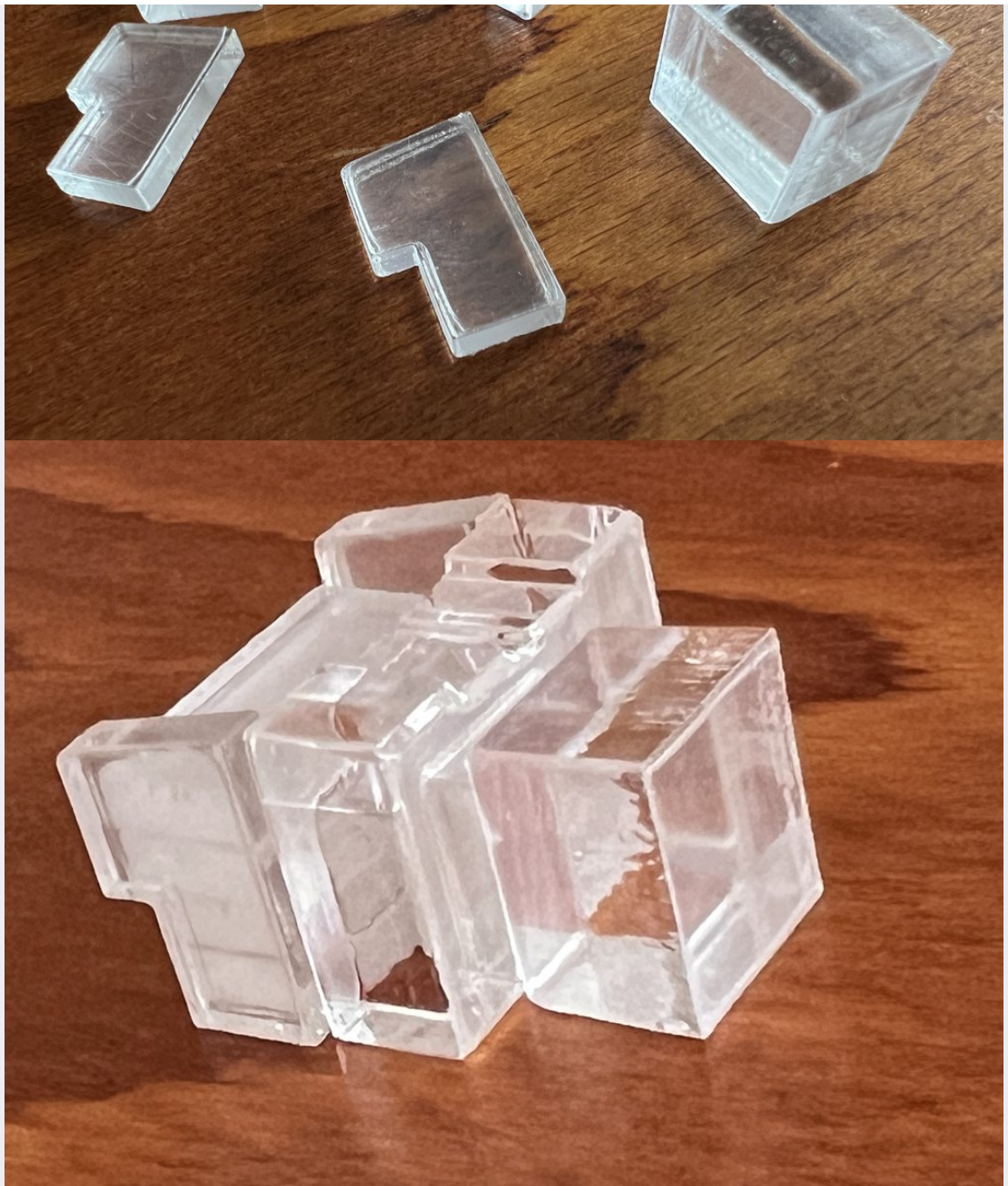


Re: Neumann DST copy???

« Reply #358 on: February 14, 2023, 09:09:42 AM »

the body of the cartridge, as in the original, is glued from plexiglass parts.





« Last Edit: February 17, 2023, 08:46:38 PM by Vintagepsych »

 Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195

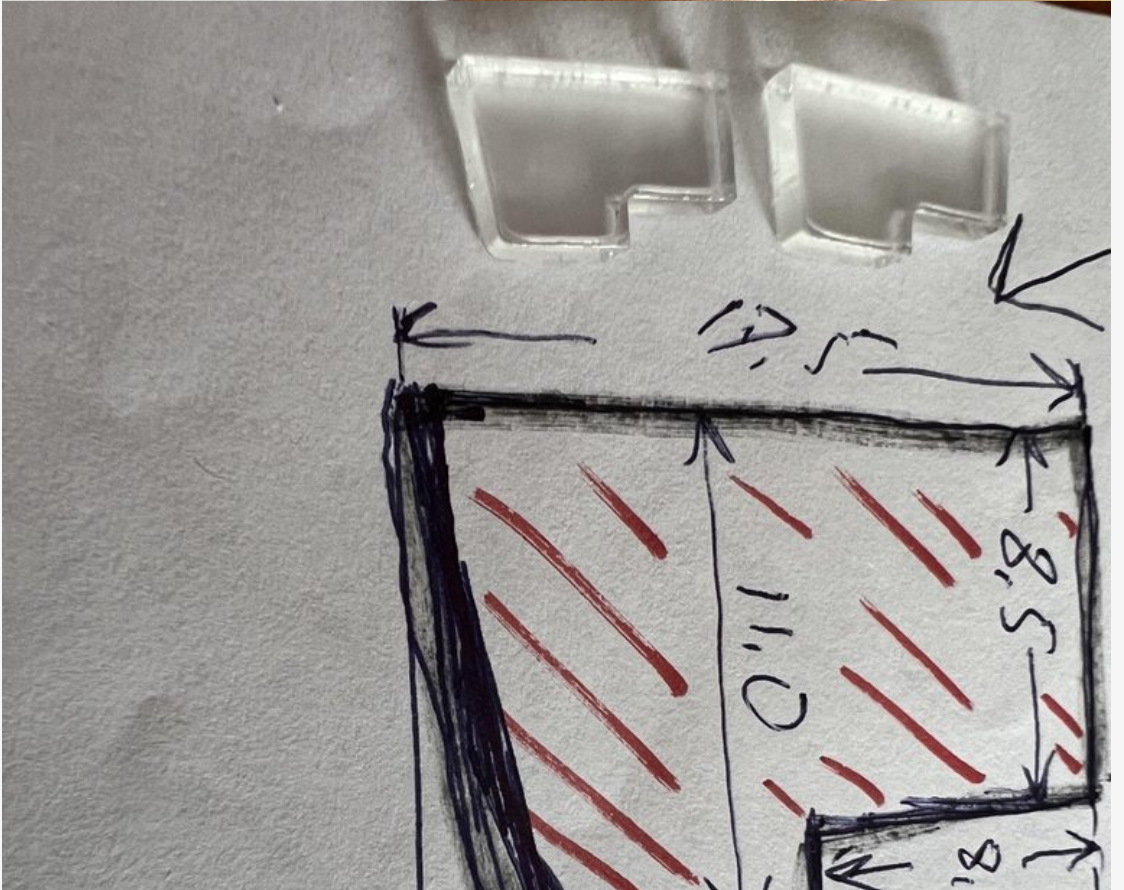


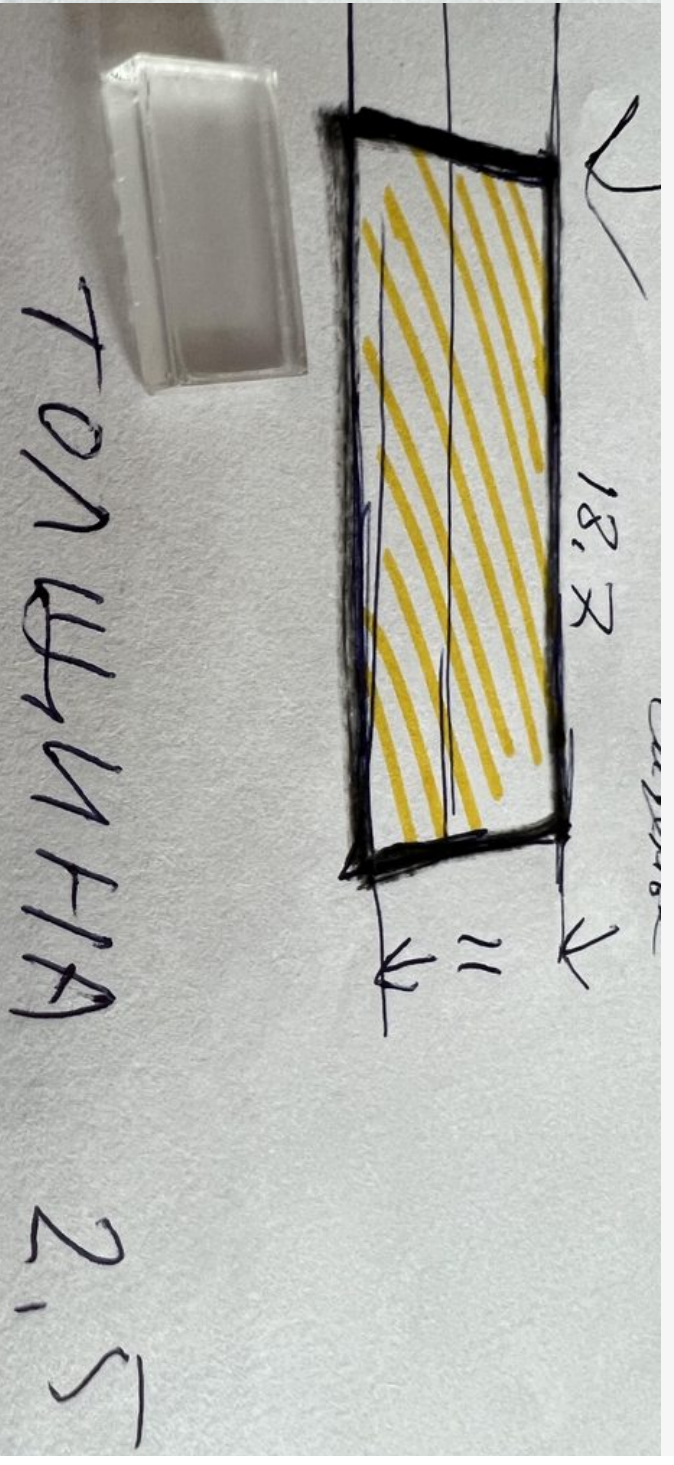
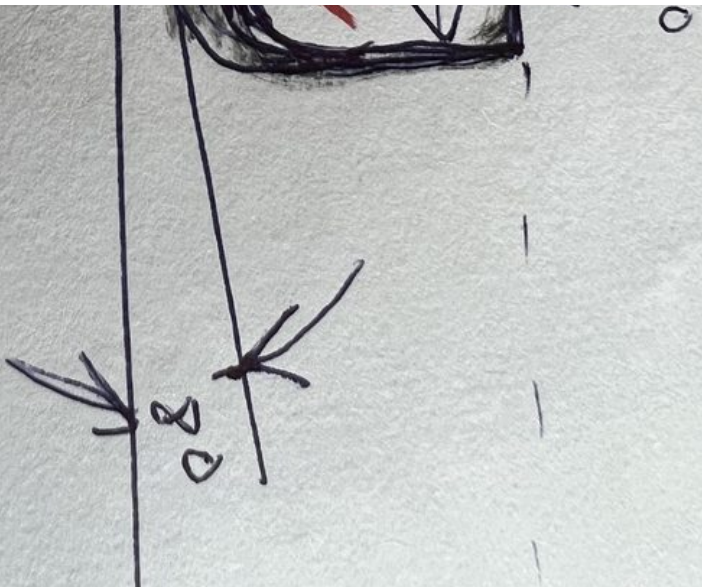
Re: Neumann DST copy???

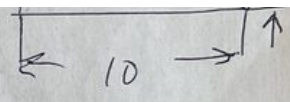
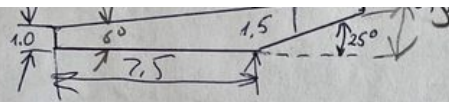
« Reply #359 on: February 14, 2023, 09:39:40 AM »

here are the drawings with dimensions:



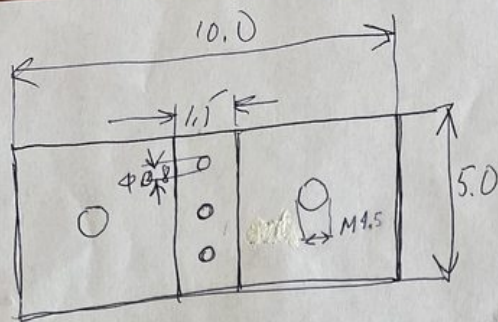
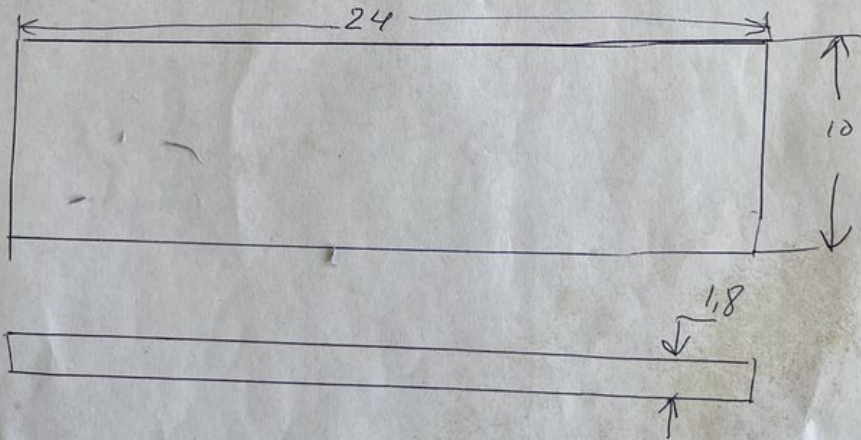




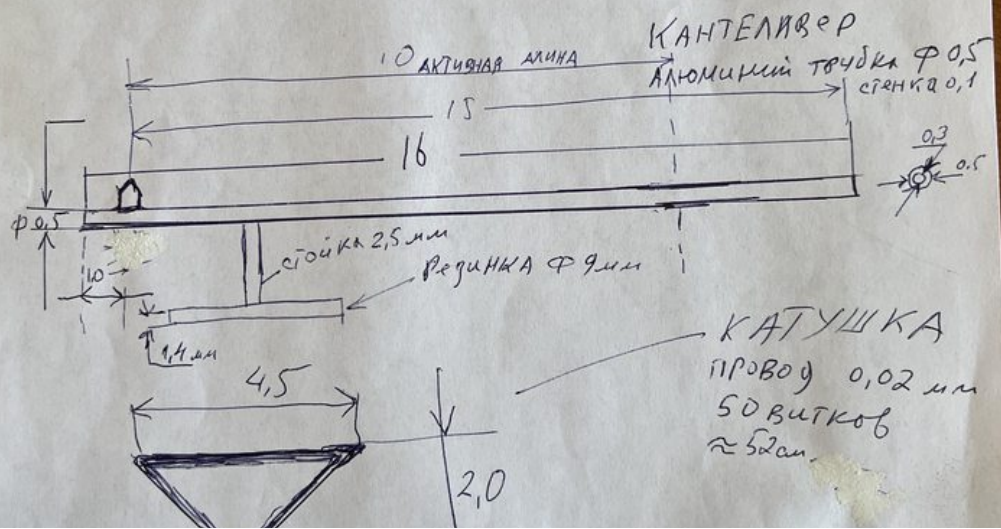
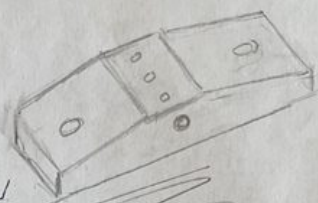
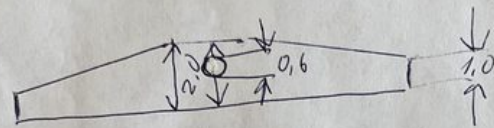


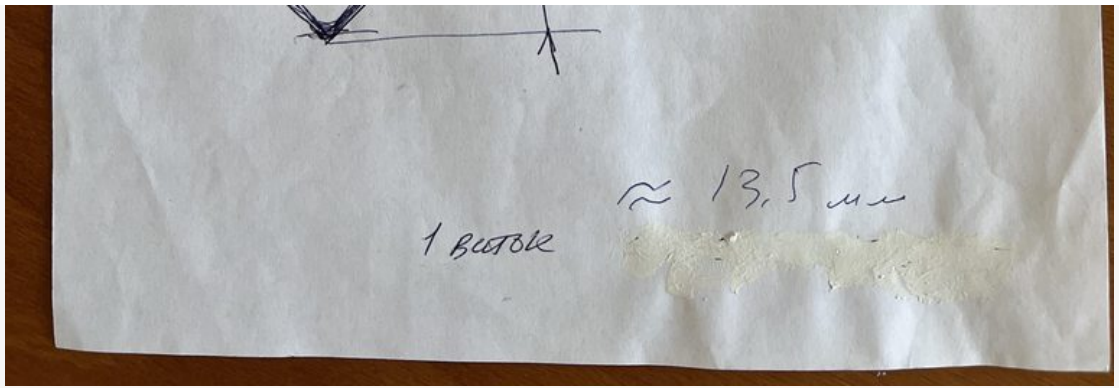
МАГНИТОПРОВОД (мост)

уменьш 13x10x5,6
мощность



Кромка 11М





In any case, you need to carefully prepare your project, which will be based on the details and materials that you will be using.

« Last Edit: April 17, 2023, 12:31:35 PM by
Vintagepsych »

 Logged

Yuriy

Pages: «previous 1 ... 23 [24] 25 26 next» [Go Up](#)

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Jump to: => Cartridges and Styli

[go](#)

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Pages: «[previous](#) 1 ... 24 [**25**] 26 [next](#)» [Go Down](#)

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Author

Topic: Neumann DST copy??? (Read 39326 times)

Mantas35

Member



☐ Offline

Posts: 18



Re: Neumann DST copy???

« **Reply #360 on:** February 14, 2023, 10:10:09 AM »

Thank you Yuri for detailed info, i guess i can get started 🙏

Logged

Mantas35

Member



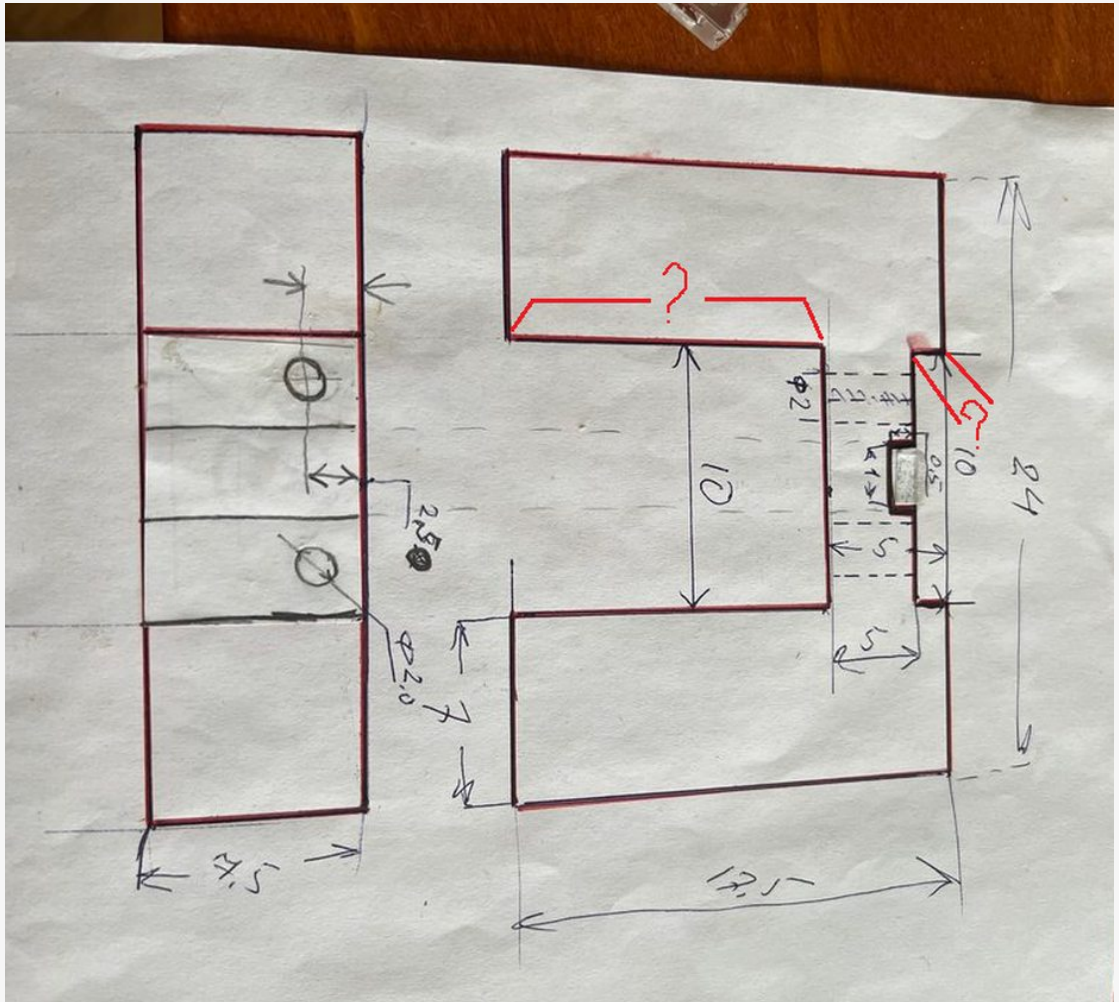
☐ Offline

Posts: 18



Re: Neumann DST copy???

« **Reply #361 on:** February 14, 2023, 02:26:59 PM »





What are these dimensions Yuri?

Logged

zwarte-romantiek

Member

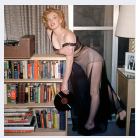


Offline

Age: 57

Location: Utrecht,
The Netherlands

Posts: 1,165



Re: Neumann DST copy???

« Reply #362 on: February 15, 2023, 07:40:12 AM »

Quote from: Mantas35 on February 14, 2023, 10:10:09 AM

Thank you Yuri for detailed info, i guess i can get started 🙏

Good luck and enjoy the building process.

Send some pictures now & then about your progress

Kind regards

Niels

Logged

THORENS lover

Niels J. Masselink

The Netherlands

Vintagepsych

Member



Offline

Age: 74

Location: Russia

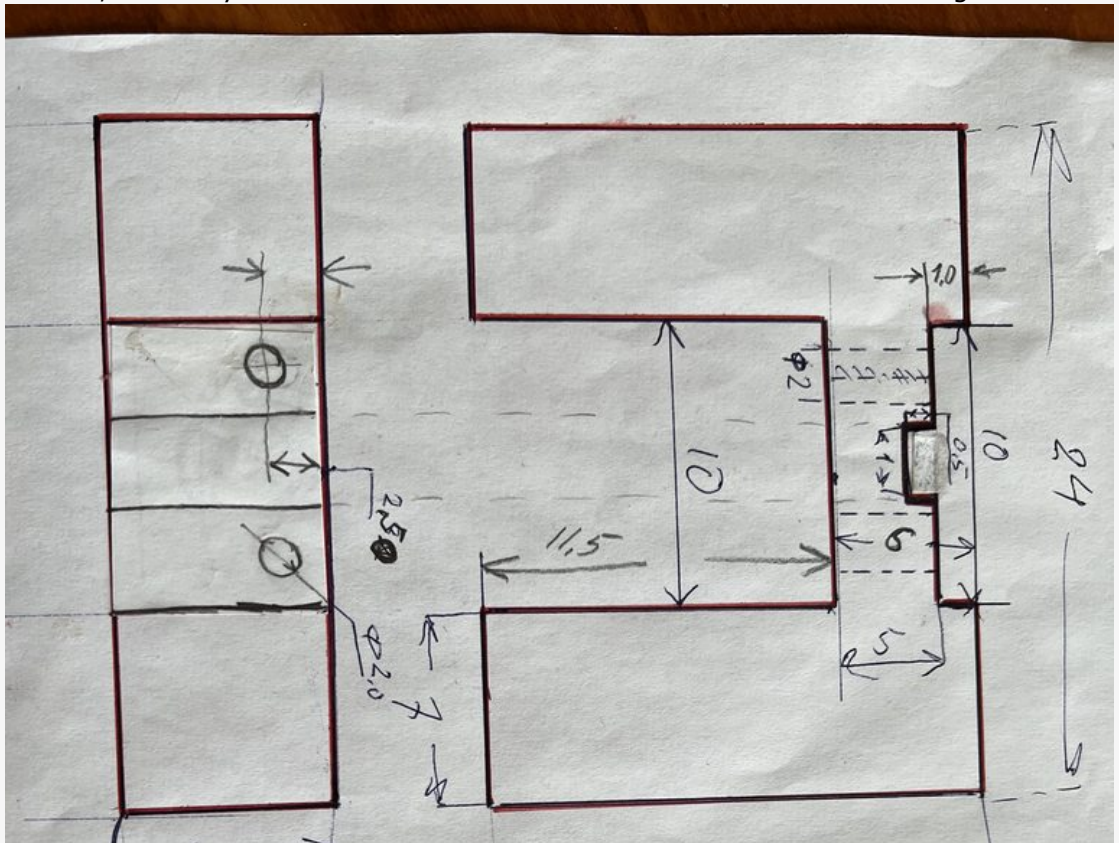
Posts: 195

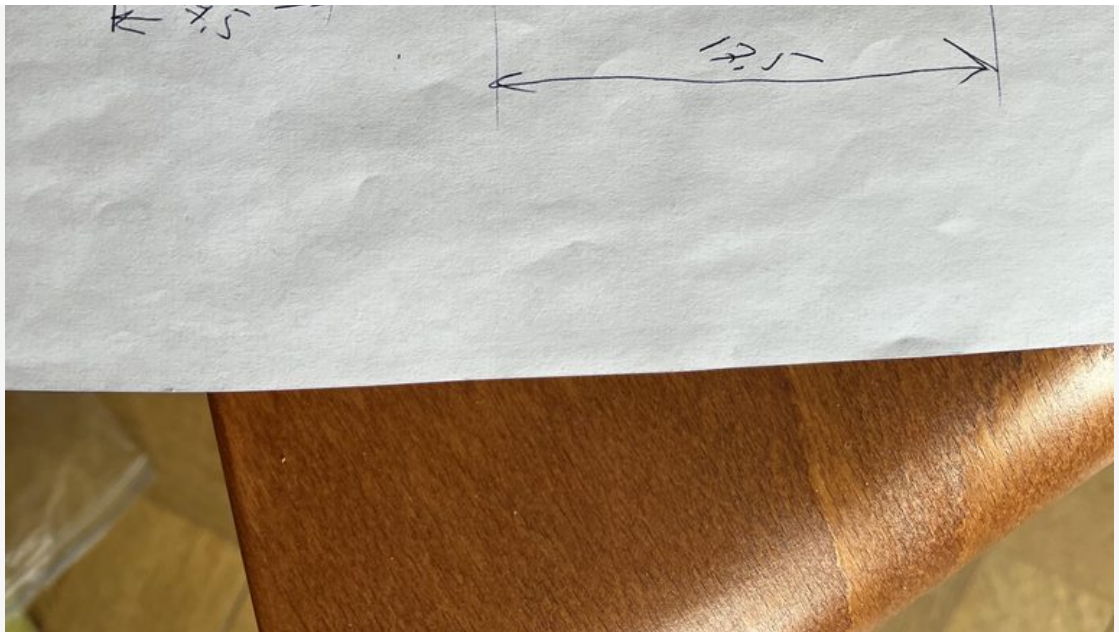


Re: Neumann DST copy???

« Reply #363 on: February 15, 2023, 08:20:22 AM »

Mantas, I'm sorry. these sizes are 11.5 and 1.0. I corrected the drawing.





Logged

Yuriy

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



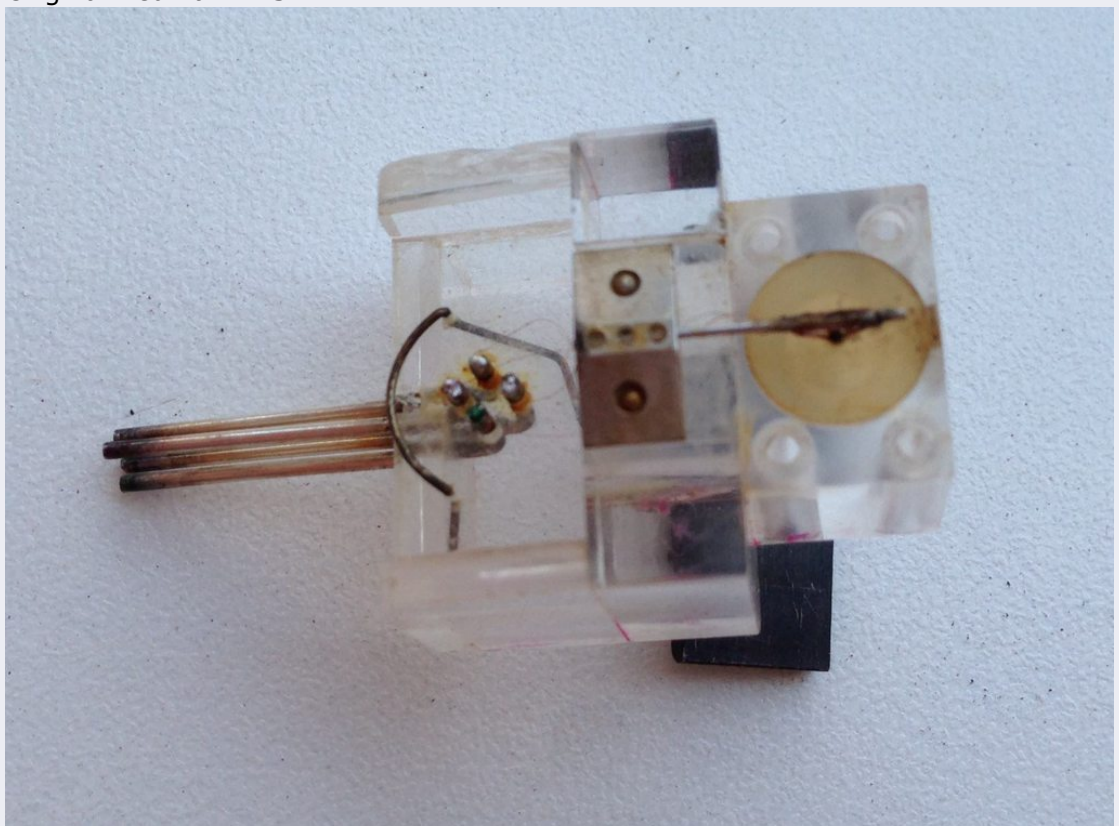
Re: Neumann DST copy???

« Reply #364 on: February 15, 2023, 08:35:00 AM »

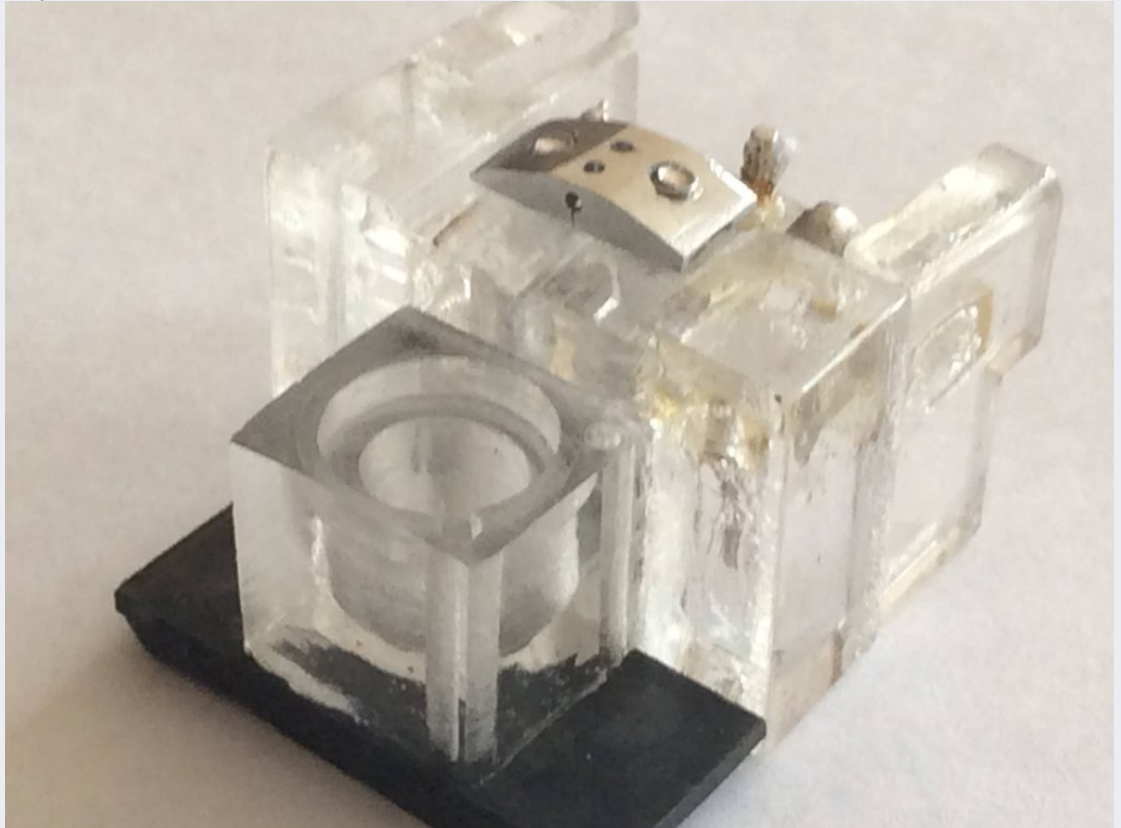
Please note that the dimensions on these drawings correspond to the dimensions of the original Neumann DST cartridge. The original cartridge uses two 13x10x4 Alnico magnets. Since I used magnets from an EMT-Ortofon mono cartridge in my project, with dimensions of 13x10x5.6, I had to slightly change the design of the project.

Therefore, it is very important in your project to take into account the dimensions of parts, in particular magnets.

Original Neumann DST:

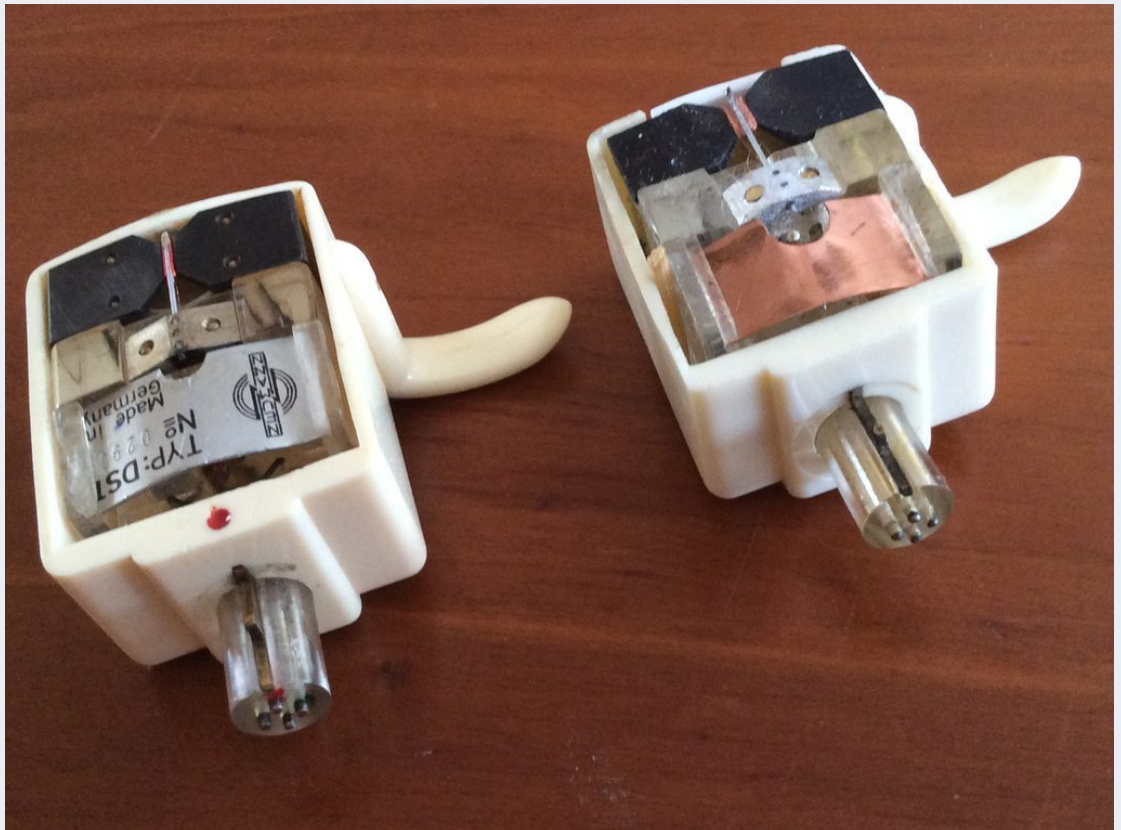


Replica:



In these two photos you can see that the places for the magnets have different sizes.


In addition, the original has 4 holes for screw fastening of the pole pieces, and in my project there is no place for these holes and the poles were glued.



the diameter of the rubber damper lodge was also reduced from 9.0 mm to 8.0 mm

I would like to add that making a cartridge that is 100% indistinguishable from the original is an impossible task. Even a copy made in the factory will differ from the original. It is very difficult to accurately determine and select: the material of voice coils, pole pieces, magnets, adhesives, methods of connecting cartridge parts, and much more. However, you can build a great sounding cartridge using the ideas and principles of this great product, even at home.

« Last Edit: March 17, 2023, 09:16:21 AM by Vintagepsych »

 Logged

Yuriy

Mantas35

Member



☐ Offline

Posts: 18



Re: Neumann DST copy???

« Reply #365 on: February 15, 2023, 10:19:16 AM »

Thank you very much Yuri. My plan so far, i will probably be making body out of wood, i find it easier to work for myself. I was going to ask you how are the pole pieces fitted, as i saw the original ones fitted with screws, thats why drawings show 4 holes. I am planning to glue them as well. I am planning to do an FC cartridge, as i got some old material from FC loudspeakers i will be using your coil dimension, i also have some old alnico speakers, but i am not sure i these magnets are easy to grind and sand. Can i use 0.08 mm wire for coil windings, as i got this old wire, still need to find some 0.02 wire, but i am working on it. Still lots of questions fill follow guys 🤔 One more thing, what sort of SUT you use for this cartridge, because i believe it is needed for this cartridge. Will keep you updated with the pictures, i am still in a planning phase 🤔

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #366 on: February 15, 2023, 10:52:26 AM »

The work is long, viscous and requires a lot of patience and discipline.

« Last Edit: February 23, 2023, 12:43:20 AM by Vintagepsych »

 Logged

Yuriy

Mantas35

Member



☐ Offline

Posts: 18



Re: Neumann DST copy???

« Reply #367 on: February 15, 2023, 11:20:43 AM »

No doubt it is a difficult work, but i believe i can manage it, especialy if you will technically support me 🤔 How about 0.08 wire for magnet coils, step up transformer?

 Logged

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???


« Reply #368 on: February 15, 2023, 06:03:36 PM »

For the electromagnet coils, i used voice coils from vintage Jukeboxes. Wire 0.05 mm. I haven't tried 0.08, but I think that would work too.





« Last Edit: February 24, 2023, 10:35:09 PM by Vintagepsych »

 Logged

Yuriy

Mantas35

Member



☐ Offline

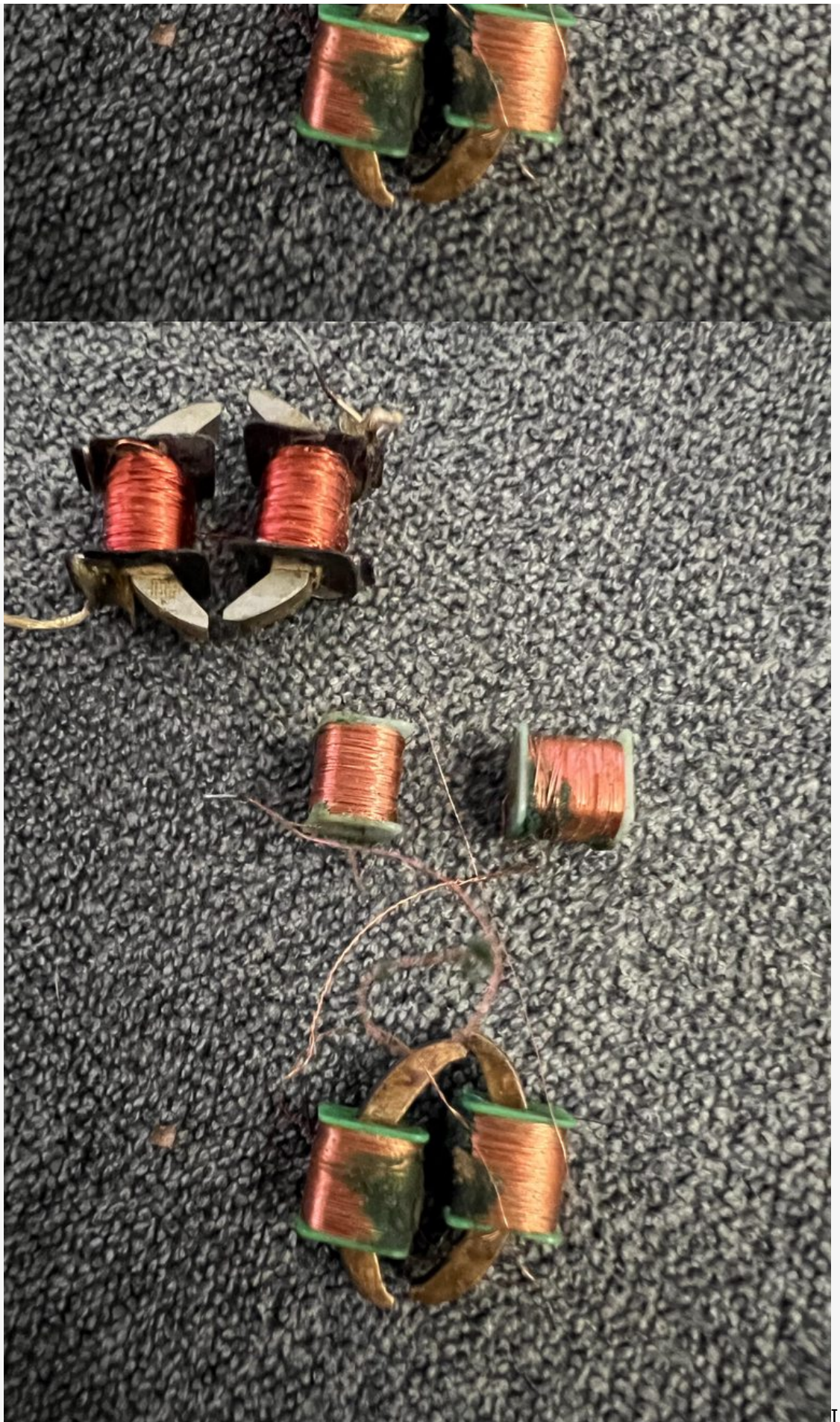
Posts: 18



Re: Neumann DST copy???

« Reply #369 on: February 15, 2023, 06:45:49 PM »





have sourced 0.06, 0.08 from old R2R players, need to get 0.02 for coil now

Mantas35

Member



Offline

Posts: 18

**Re: Neumann DST copy???**

« Reply #370 on: February 15, 2023, 06:52:25 PM »

I believe that these micro transformers could be employed into cartridge generator somehow, but I am not that much experienced to figure out how 🤔

Logged

Thunders1988

Member



Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the useless.

**Re: Neumann DST copy???**

« Reply #371 on: April 21, 2023, 05:49:30 PM »

I think I've read this thread about 50 times now. What Yuriy and all the others have done... Beyond words.

Figured I might as well give it a go 🤖

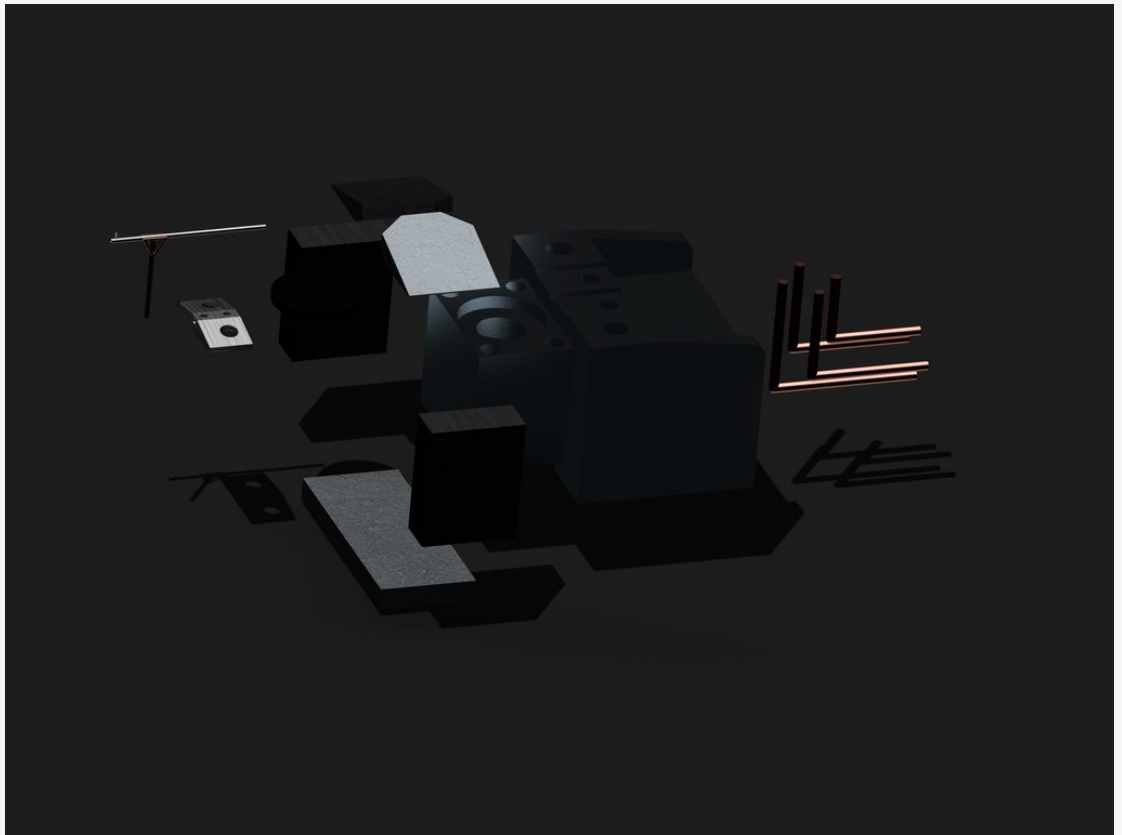
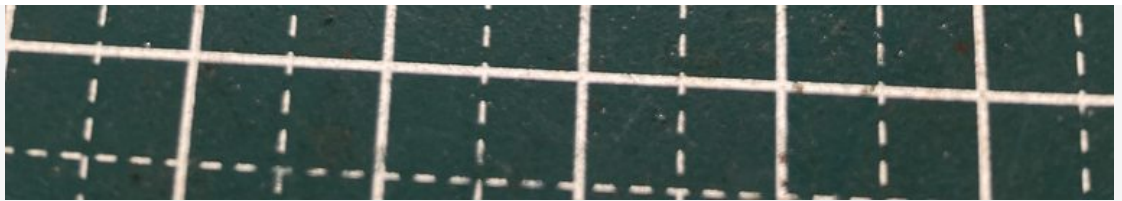
As a teacher of mine once said: "Aim high, the arrow will drop in its flight."

There's a well equipped scalemodel shop in Antwerp where they've got a lot of the tools. I drew a couple of 3D models based on the drawings provided by Yuriy and had a friend 3D print me the main body.

Still have a ton of magnets and AWG43 magnet wire from my guitarbuilding days.

It's going to get interesting the next couple of weeks. 🤖





 Logged

Mathias

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the
useless.

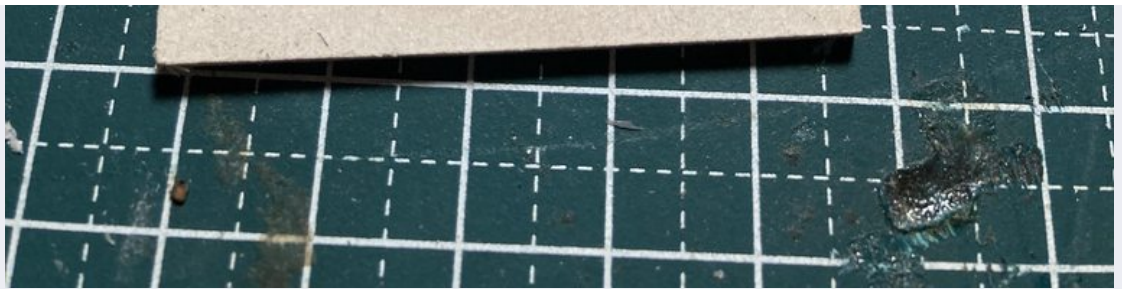


Re: Neumann DST copy???

« Reply #372 on: April 25, 2023, 09:46:27 PM »








Figured I might as well get a 3D printer myself... Kept tinkering with the design and driving my friend mad while sending revisions.
Found one for €80 used. Spent the entire day setting it up and managed to get 2 decent prints off of it.
Body for the cartridge is designed to take AlNiCo 2 rods (0.187 x 0.471), the steel topplate and pointy bits are the same dimensions as the original one.
Also modified the bit for the connector. Want to use a bit of raw PCB board and hardwire the leads on there...



Bonus: 3D printed L70 headshell. Found the file on here, it's great. Looks just like the real deal.

 Logged

Mathias

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« Reply #373 on: April 25, 2023, 10:06:20 PM »

great, Matthias! the rubber membrane is attached to the torsion bar with elastic adhesive

« Last Edit: April 26, 2023, 06:13:41 AM by Vintagepsych »

 Logged

Yuriy

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the
useless.



Re: Neumann DST copy???

« **Reply #374 on:** April 25, 2023, 10:21:40 PM »

Thanks Yuriy, Good to know. I've got some rubber glue I use for repairing my climbing shoes.

Will try that one. What do you use?

Mathias

Logged

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Author

Topic: [Neumann DST copy???](#) (Read 39327 times)

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: [Neumann DST copy???](#)

« **Reply #375 on:** April 26, 2023, 05:49:23 AM »

some kind of soft glue is used in the original. But you can do without glue. the end of the torsion rests against the rubber membrane and slightly pushes it. I used this option.



« Last Edit: April 29, 2023, 04:07:08 PM by [Vintagepsych](#) »

Logged

Yuriy

Thunders1988

Member



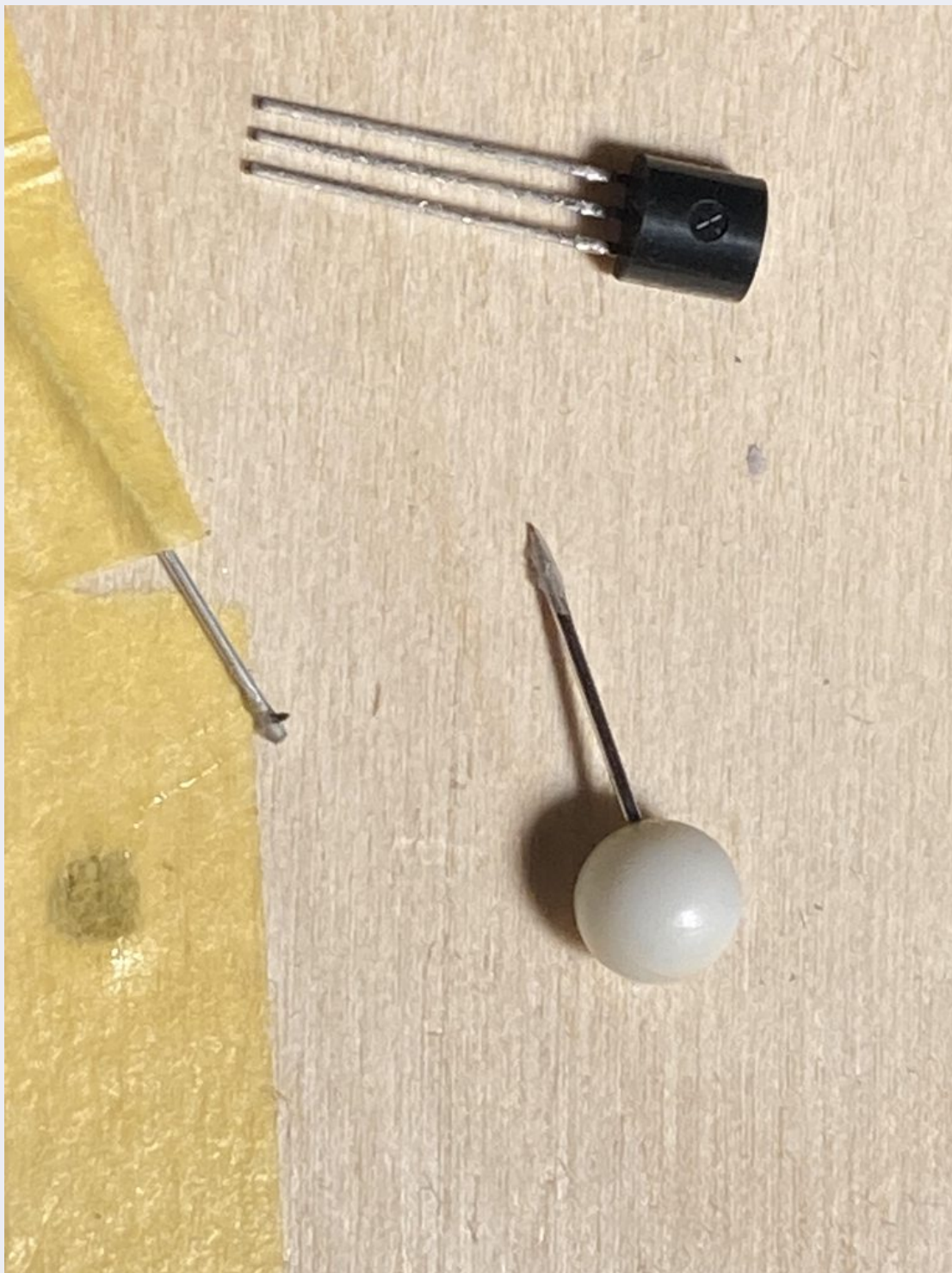
Re: [Neumann DST copy???](#)

« **Reply #376 on:** April 27, 2023, 07:16:30 PM »

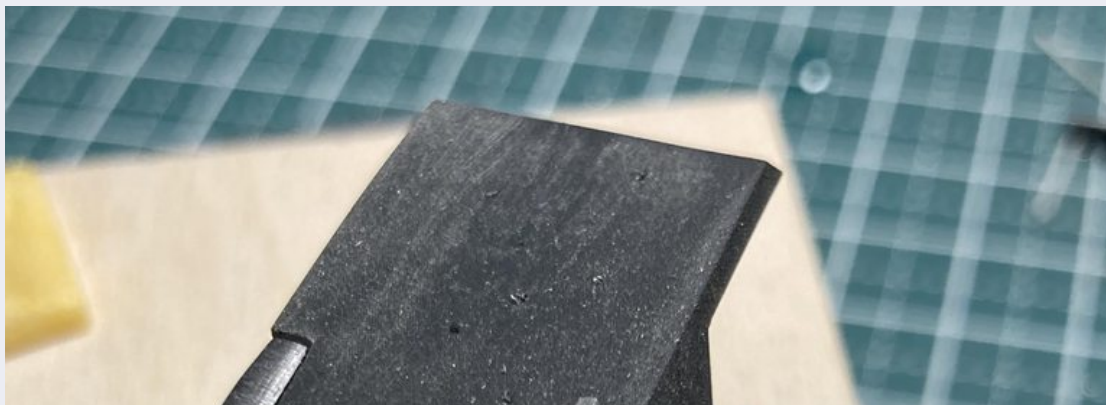
☐ Offline

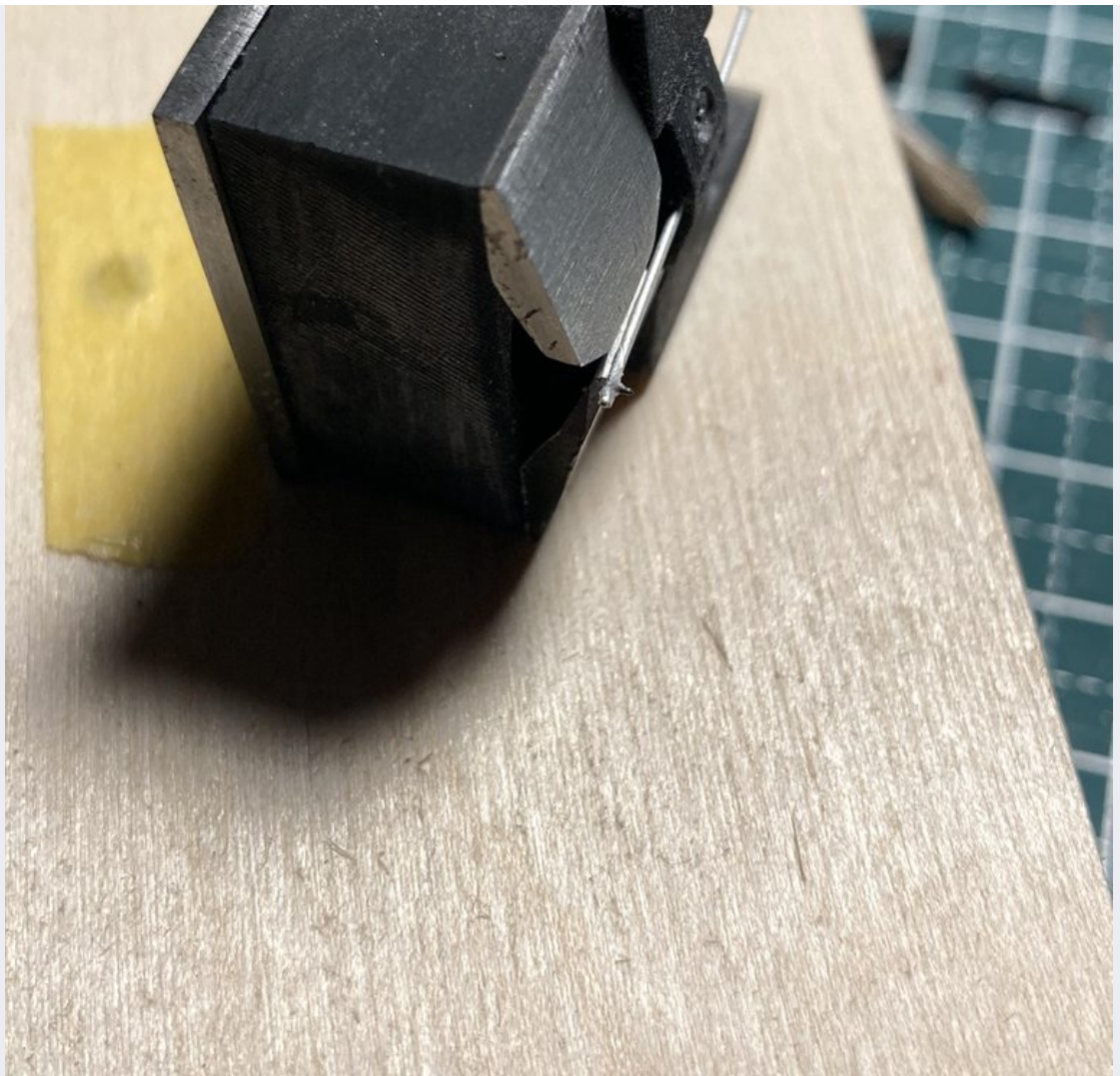
Age: 35
Location: Belgium
Posts: 269

Conquistador of the
useless.



Pretty pleased with this one! Put the tip on the cantilever. Never thought it'd get it done. If I didn't have to pack for Frankfurt tomorrow I'd still be giving the coils a go. 🤔





Body is done, magnetic assembly still quite rough, but doable.
Next up: coils, torsion bar and final assembly.

 Logged

Mathias

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

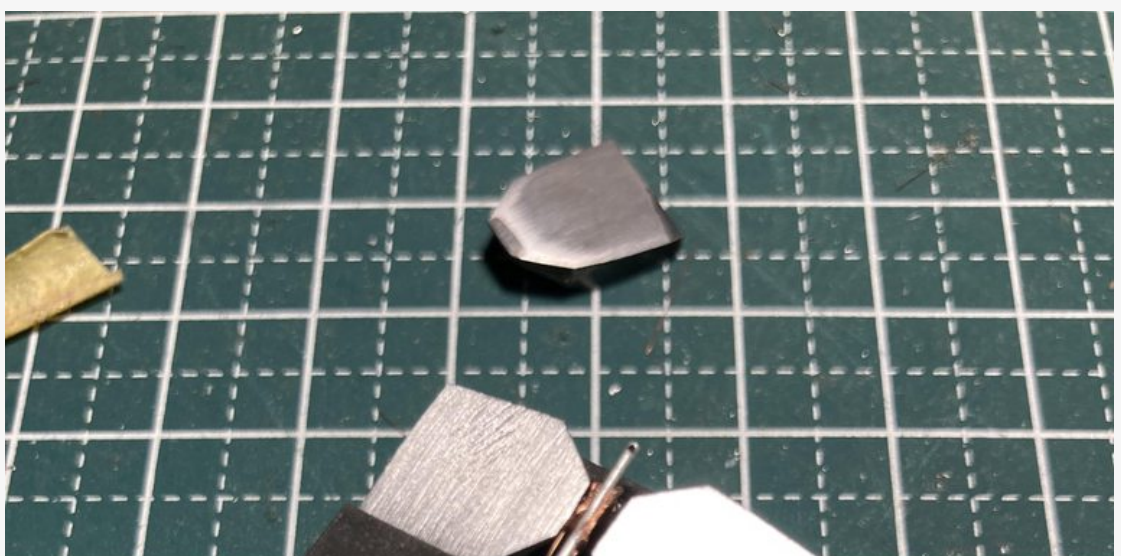
Posts: 269

Conquistador of the
useless.



Re: Neumann DST copy???

« Reply #377 on: May 03, 2023, 04:46:28 PM »





And then I wrecked one of the coils...



Logged

Mathias

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

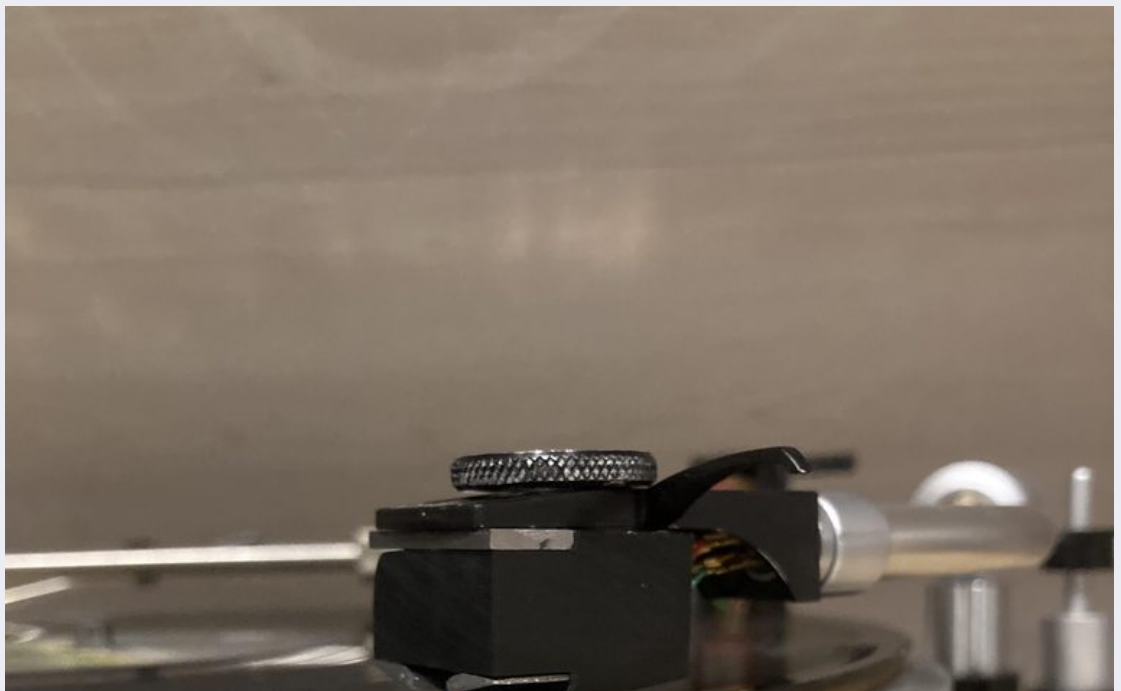
Posts: 269

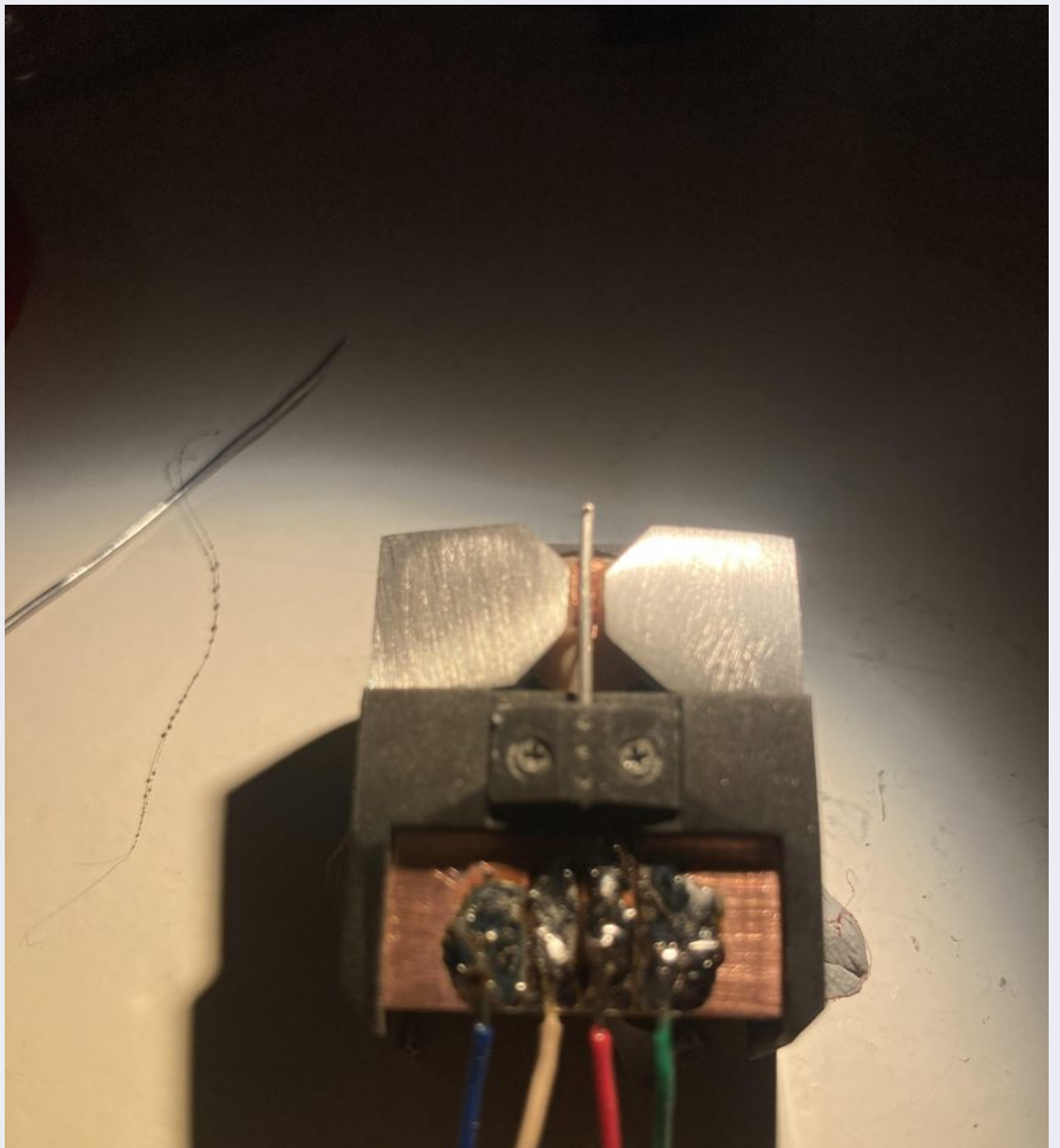
Conquistador of the
useless.

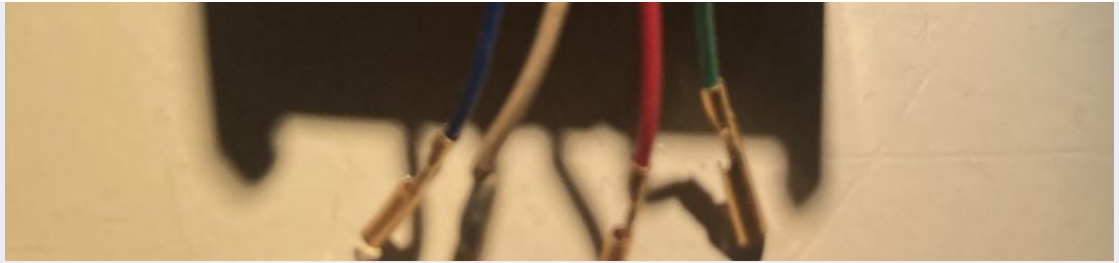


Re: Neumann DST copy???


« Reply #378 on: May 03, 2023, 09:47:01 PM »







The Solderjob isn't my proudest moment, but it works!
Shaking more than usually...

 Logged

Mathias

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195




Re: Neumann DST copy???

« **Reply #379 on:** May 04, 2023, 06:23:05 AM »

Cool! Congratulations. chatter, possibly due to weak damping. will there be a video?

« *Last Edit: May 04, 2023, 06:41:37 AM by Vintagepsych* »

 Logged

Yuriy

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the
useless.



Re: Neumann DST copy???

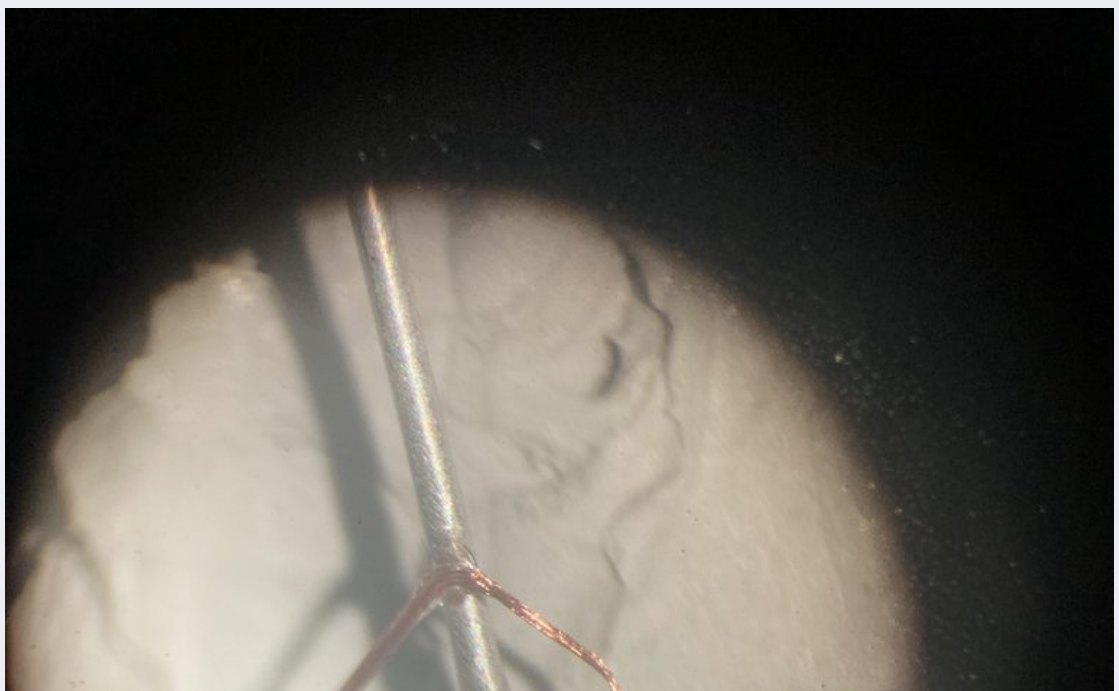
« **Reply #380 on:** May 04, 2023, 06:50:41 AM »

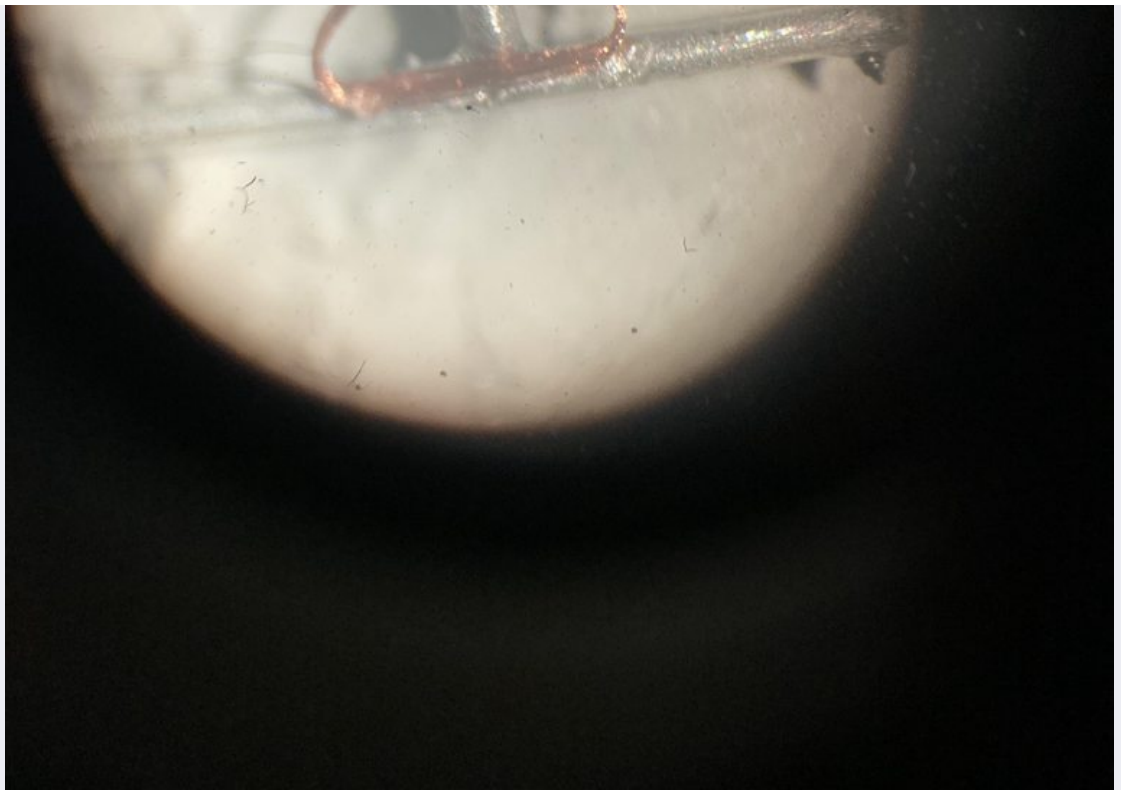
Why not. 🤔

Will have to look for music Youtube doesn't remove automatically...

Listened last night and it's sounding very promising. It's interesting how the gap between the plates and the coils alters the sound.

Was tracking at a hefty 5 grams and not a real sign of damage to the records, so...
Going to put it on the oscilloscope and measure a couple of things.





Here's a pic when I just put on the first coil btw. Second one is pretty much identical so having to redo them was not a bad thing. 🤖
7.6ohms

 Logged

Mathias

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia

Posts: 195



Re: Neumann DST copy???

« Reply #381 on: May 04, 2023, 07:09:11 AM »

very nice coil. feng shui

 Logged

Yuriy

Thunders1988

Member



☐ Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the
useless.



Re: Neumann DST copy???

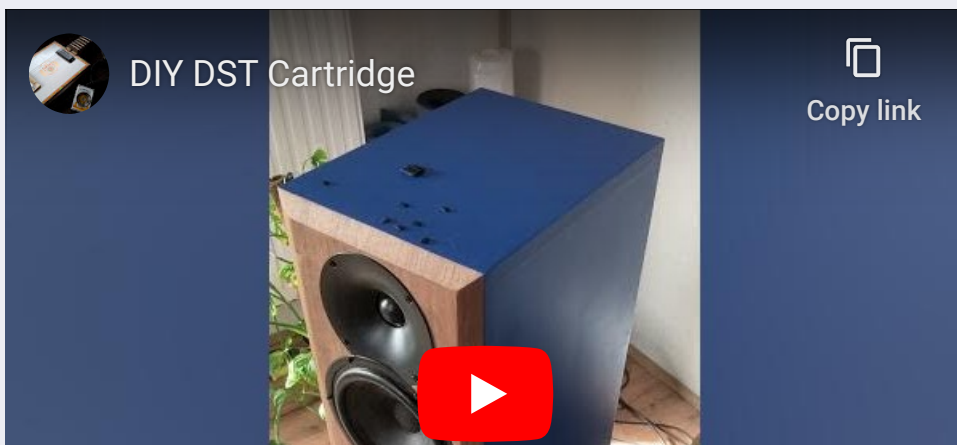
« Reply #382 on: May 04, 2023, 08:17:46 AM »

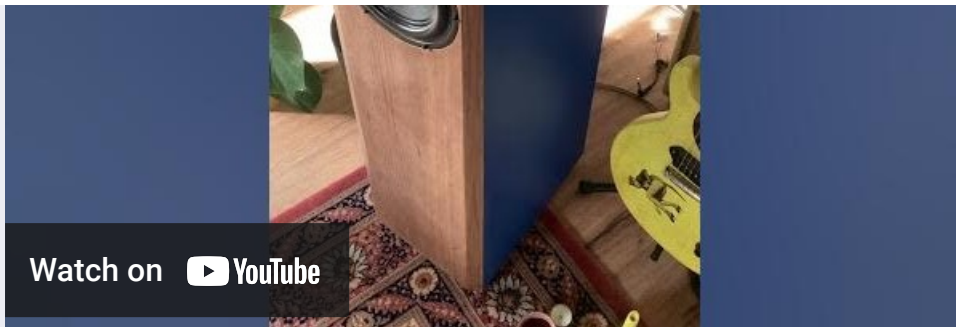


DIY DST Cartridge




Copy link





A short clip.

 Logged

Mathias

wenig watt

Member



☐ Offline

Age: 56

Location: Hansestadt

Wismar Baltic Sea

Posts: 1,974

Der Kopf ist rund...



Re: Neumann DST copy???

« Reply #383 on: May 04, 2023, 08:57:09 AM »

Must feel good if it works! Congratulations. 🤓

Best regards

Arndt

 Logged

...damit das Denken die Richtung ändern kann.

Vintagepsych

Member



☐ Offline

Age: 74

Location: Russia


Posts: 195



Re: Neumann DST copy???

« Reply #384 on: May 04, 2023, 09:03:53 AM »

hi Mathias the sound is great. I'm glad you did it!!!

 Logged

Yuriy

ropie

Administrator

Member



☐ Offline

Posts: 12,222



Re: Neumann DST copy???


« Reply #385 on: May 04, 2023, 12:26:22 PM »

Very impressive, Mathias!

Quote from: Thunders1988 on May 04, 2023, 06:50:41 AM

Will have to look for music Youtube doesn't remove automatically...

What made you chose Soul Kitchen, btw? Apart from the fact that it's a great song of course!

 Logged

Thunders1988

Member



Re: Neumann DST copy???

« Reply #386 on: May 04, 2023, 12:38:34 PM »



Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the
useless.

Thanks Arndt. Very happy it works. Relief might be a good word as well.

Hey Piero, I think I just went for it because of Yuriy's nickname. Vintage Psych. All good stuff. Inspirational to say the least.

Logged

Mathias

Andr039

Member



Offline

Location:

Königsberg, Russia

Posts: 2,123



Re: Neumann DST copy???

« **Reply #387** on: May 04, 2023, 09:36:18 PM »

just wow! 🤖

Logged

Andrey

Thunders1988

Member



Offline

Age: 35

Location: Belgium

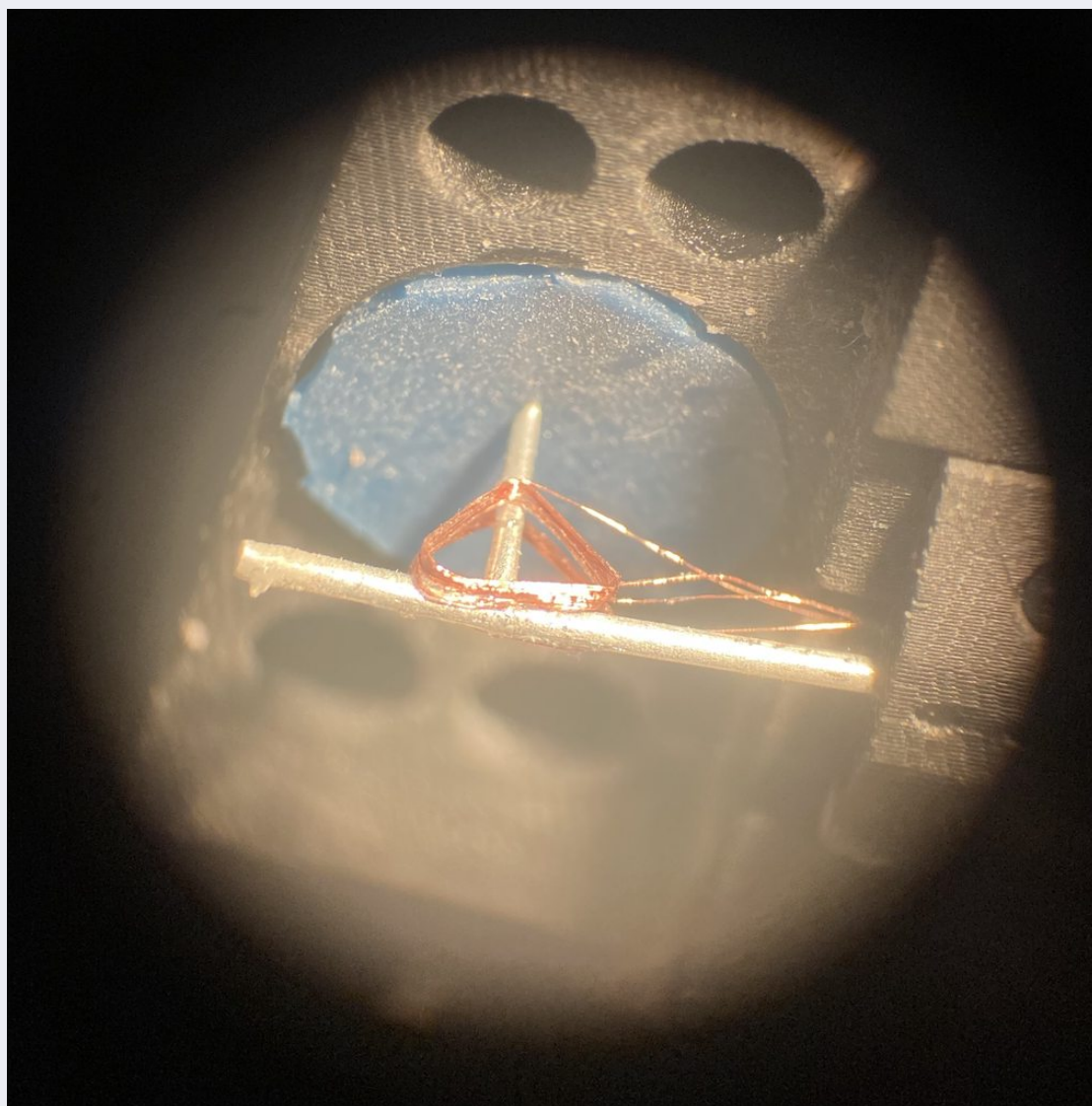
Posts: 269

Conquistador of the
useless.



Re: Neumann DST copy???

« **Reply #388** on: May 05, 2023, 09:11:05 PM »



Been playing around with the cart and trackingweight yesterday and today. Couldn't get it under 6 grams 😬
Changed the rubber damping pad, shortened the torsionbar, to no avail.

Also measuring output was a challenge. Got a testrecord and tried measuring the outputvoltage at 1000hz, no definitive answer. I do have to turn up the volume to about 75% to get to my usual listening volume.

This body accepts 4 stacks of 12 3x1mm neodyn magnets. With two stacks (one on each side) the output was significantly lower compared with all 4 stacks in place. Next version will have more windings on the coil.

Just made a completely new design... Will post a render later.

Stole a couple of ideas I saw earlier in the thread. 🤖



Edit: Another exploded view. Already printed a body, AlNiCo guitar pickup rods this time.

« Last Edit: May 05, 2023, 11:41:25 PM by Thunders1988 »

Logged

Mathias

Thunders1988

Member



Offline

Age: 35

Location: Belgium

Posts: 269

Conquistador of the useless.



Re: Neumann DST copy???

« Reply #389 on: May 14, 2023, 10:05:45 PM »

Finished another one today 🤖

Still the same design sadly... The one from the render didn't function. Throwing one together in an evening wasn't a smart idea. Sloppy work.

Anywho, the third one works better compared to the first one.

Picked up two of the Shure testrecords in Antwerp. This one tracks at 4 grams where the first one wouldn't at 6.

Still not very pleased with tracking weight, but I guess it's inherent to the design with torsionbar? Or maybe stylusshape?


Also put the coils a lot closer to the stylus compared to the first one, so the entire cantilever is about a millimeter shorter...

The Alnico 2 magnets do sound different. In a positive way. Throwing Faithless'

Reverence at it, sounds great. Can understand the Italian opera singer 🤪

Finally put my Lundahl LL1678 SUT together but the hum is pretty annoying. Very picky to placement in the system. So the Ifi iPhono isn't going anywhere 🤪

« Last Edit: May 14, 2023, 10:21:52 PM by
Thunders1988 »

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Mathias

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